

12

VOLUME II OF III

TASK ANALYSIS REPORT RELATIVE TO VESSEL COLLISIONS, RAMMINGS, AND GROUNDINGS





#### APPENDIX F:

FUNCTIONAL JOB ANALYSIS TASK STATEMENTS FOR BRIDGE PERSONNEL ON TANKERS/FREIGHTERS

> DECEMBER 1976 FINAL REPORT

Document is available to the public through the National Technical Information Service,
Springfield, Virginia 22161

Prepared for

#### DEPARTMENT OF TRANSPORTATION UNITED STATES COAST GUARD

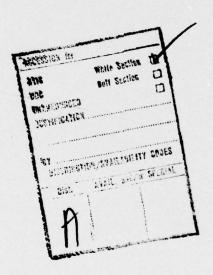
Office of Research and Development Washington, D.C. 20590

#### NOTICE

This document is disseminated under the sponsorship of the U. S. Department of Transportation in the interest of information exchange. The United States Government assumes no liability for the contents or use thereof.

The United States Government does not endorse products or manufacturers.

Trade or manufacturers' names appear herein solely because they are considered essential to the object of this report.



3. Recipient's Catalog No.
7- Vol-2)
5. Report Date
December -1976
6. Performing Organization Code
8. Performing Organization Report No.
Technical Report No. 1049
10. Work Unit No. (TRAIS)
- CG-41903-A Task Order 2
13. Type of Report and Period Covered
19
July 1975-June 1976
14. Sponsoring Agency Code
G-DSA-1
overview of the analysis,
ces A-E. Volumes II and III nd towboats, respectively).
nd towboats, respectively).
s of analysis of tasks of
vessels and on towboat-barge
ask analysis was applied.
ise descriptions of the tasks
onboard equipment, information
ask, the action required, the
ation, degree of prescription/
1 educational background and
mplexity are provided. The
t-wide applicability. The mooring, maneuvering in re-
mooring, maneavering in re-
ne for systematic, continuing
ies. In addition, recommenda-
ies. In addition, recommenda- near term to improve the safet
ies. In addition, recommenda-
ies. In addition, recommenda-
ies. In addition, recommenda- near term to improve the safet
ies. In addition, recommenda-
ies. In addition, recommenda- near term to improve the safet
ies. In addition, recommenda- near term to improve the safet
ies. In addition, recommenda- near term to improve the safet
ries. In addition, recommenda- near term to improve the safet
ies. In addition, recommenda- near term to improve the safet
near term to improve the safet available to the U.S. public National Technical Informate, Springfield, Va. 22161
ries. In addition, recommenda- near term to improve the safet rement available to the U.S. public National Technical Informa- ce, Springfield, Va. 22161
ries. In addition, recommenda- near term to improve the safet riement a available to the U.S. public e National Technical Informa- ce, Springfield, Va. 22161
ries. In addition, recommenda- near term to improve the safet rement available to the U.S. public National Technical Informa- ce, Springfield, Va. 22161
ries. In addition, recommenda- near term to improve the safet  rement available to the U.S. public National Technical Informa- te, Springfield, Va. 22161    21. No. of Poges   22. Price   Vol. I-153   Vol. II-189   Vol. III-113

SEST AVAILABLE CODY

Symbol

1 7 = 2 E

7 7 E

ĕ •

= 4 + 1 = 5

## METRIC CONVERSION FACTORS

c Messures	To Find	in ches in ches	feet yards miles	square inches square yards square miles acres	ounces pounds - short tons	fluid ounces pints quarts gallons cubic feet cubic yards	Fahvenheit temperature emperature   6
brsions from Metri	Multiply by	8. °°	3.3 6.1.3	AREA 0,16 1.2 0,4	MASS (weight) 0.035 2.2 1.1	0.03 2.1 1.06 0.26 3.5 3.3 1.3	9/5 (then add 32) 86.6 80   120
Approximate Conversions from Metric Measures	When You Knew	millimeters	meters meters kilometers	square contineters square meters square bitometers hectares (10,000 m²)	grame kilograma tomes (1000 kg)	milliliters liters liters liters cubic maters cubic meters	Cataius temperatur
	Sympto	Ē 8	e e 5	<b>*</b> \$ 2 \$ 2	<b></b>	₹ <b>%</b> °€	0 0 1 00
33		05   61	81   21             				
•  - - - -	 	֓֞֟֓֞֟֟֓֟֟ ֓֓֓֓֞֓֓֓֓֞֞֓֓֓֓֞֞֓֓֓֞֞֓֓֓֓֞֞֓֓֞֡֓֓֡֓֓֞֡֓֓֡֓֡֓֡֓֡֓֓֡֓	11,1,1,1,1	<b>°</b> 		''''''''''''''''''''''''''''''''''''''	1 inches
	Symbol		5 5 e 5	ቼቴቴቼ 2 •	o 2 -	₹₹₹ <b>-</b> °	°C au
to Metric Measures	1		centimeters centimeters meters kilometers	square centimeters square meters square meters square kilometers hectares	grans kilograms tonnes	millifers millifers millifers fiters liters liters cubic meters	Celsius temperature temperature (Tables, see NBS Misc. P.
	Mehiph by	LENGTH	.2.5 30 0.9 1.6	AREA 6.5 0.09 0.8 0.4	MASS (weight) 28 0.45 0.3	5 15 30 0.24 0.47 0.95 3.8	TEMPERATURE (exact)  5/9 (after subtracting 32)  act conversions and more detailed
Approximate Conversions	When You Know	1	noches Yanda Miles	square inches square feet square yards square miles acres		tesspoons tablespoons fluid ounces cups pints quarts gallons	TEMPERATURE (exact)  F Fahrenheit 5/9 (after temperature subtracting temperature 32)  1 in ± 2.54 (exactly), For other exact conversions and more detailed tables, see NBS Misc. Publ. 286. Units of Medits and Messures, Price 92.25, SD Catalog No. C13.10.286.
	7		5 e 7 ē	<i>፝</i> ቔኇኇቜ	8 <b>2</b>	\$ \$ 5 0 % to \$ 2 3	° p 0 - 1 - 1 - 2.54 (c Units of Weight

CONTROL VESSEL MOVEMENT IN EXPEDITIOUS TRANSPORT WITHOUT ENDANGERING HUMAN LIFE, ENVIRONMENT, AND PROPERTY

Goal I: Prepare for voyage

Objective I.A: Select route, plot track, and estimate timing

TASK CODE:	I.A.1	-							
	WORKER	WORKER FUNCTION LEVEL	EVEL AND ORIENTATION	ration		an was	GENERA	GENERAL EDUCATIONAL DEVELOPMEN	VELOPME
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LAN
38	80	1A ·	10	1A	10	3	3	3	

DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAGE
38	80	1A	10	IA	10	3	3	3	3
TASK CODE:	I.A.1		GOAL: Prep	Prepare for voyage.	ge.				
OBJECTIVE:	Select r	Select route, plot track,		and estimate timing.	ming.				
TASK: Selects such as the information	cts from the Coast ion neede	chart stowa Survey Cata d to plot a	ge aboard alog of Cl safe trac	Selects from chart stowage aboard ship those char such as the Coast Survey Catalog of Charts and Hydrog information needed to plot a safe track for the ship.	harts cov rographic ip.	Selects from chart stowage aboard ship those charts covering an intended route, using navigational reference such as the Coast Survey Catalog of Charts and Hydrographic Office publications, in order to have available the information needed to plot a safe track for the ship.	oute, using na s, in order to	vigational rehave availab	references able the
		PERFORMANCE STANDARDS	E STANDARD:	S			TRAINING CONTENT	ONTENT	
Descriptive:	Ive:					Functional:			
• Selection and a	cts most are of add	Selects most recent chart and are of adquate scale.	ts which a	Selects most recent charts which are in good condition and are of adquate scale.	ondition	How to use s and obtaining	How to use sources and procedures for identifying and obtaining charts for different sea routes.	cedures for in ifferent sea	lentifying coutes.
• Ensur	res the a	Ensures the accessibility of selected charts.	y of selec	cted charts.		Specific:			
Numerical:						• Knowledge of	Knowledge of location of navigational references	avigational re	eferences
• In 100% o obtained.	00% of the ined.	e cases, all	l required	In 100% of the cases, all required charts are obtained.		מווח כוומור פרס	stowage on vesset.		

TASK CODE:	I.A.2								
	WORKER	WORKER FUNCTION LEVEL	AND ORIENTATION	FATION		WORKED	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	*	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAG
2	75	1A .	5	3A	15	3	3	3	7

TASK CODE:	I.A.2	GOAL: Prepare for voyage.	
OBJECTIVE:	Select route, pl	plot track, and estimate timing.	

TASK: Makes necessary corrections to navigational charts relevant to voyage, using own knowledge of chart reference guides and correction/update notices, and in accordance with company or ship correction/update procedures, in order to ensure that navigational charts are accurate and up-to-date.

PERFORMANCE STANDAHDS	TRAINING CONTENT
Descriptive:	Functional:
• Accurately, completely, and clear	• How to read navigational charts and understand navigational terminology.
Corrections are completed pilot to departure.  Numerical:	• Knowledge of applicable correction publications and their use.
• In 100% of the cases, all relevant charts are	Specific:
	<ul> <li>Knowledge of company or ship chart correction/update procedures.</li> </ul>

HASK CODE:	I.A.3	2							
	WORKER	VORKER FUNCTION LEVEL AND ORIEN	AND ORIEN	TATION		013000	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAGE
2	75	1A	5	3A	20	3	3	3	7

		,		,	
LANGUAGE	7				Directions : procedures,
MATH	3				lots, Sailing rection/update
REASONING	3				th as Coast Pil
INSTRUCTIONS	3				TASK: Procures and makes necessary corrections to navigational publications such as Coast Pilots, Sailing Directions and Light Lists, using correction/update notices, and in accordance with company or ship correction/update procedures, in order to update navigational publications used to plot intended track.
%	20		.egi	ing.	avigation ind in acc
THINGS	3A		GOAL: Prepare for voyage.	Select route, plot track, and estimate timing.	rections to n te notices, a ations used t
%	5		OAL: Pre	ack, and	sary corion/upda
PEOPLE	1A			ute, plot tr	makes neces sing correct navigationa
%	75		I.A.3	Select ro	cures and Lists, u to update
DATA	2		TASK CODE:	OBJECTIVE:	TASK: Pro and Light in order

Accurately and completely updates navigational publications.  Corrections are completed prior to departure.  Functional:  How to unders navigational avigational publications.	How to understand navigational terminology used in
•	I destalana
	navigational publications. Knowledge of available and applicable correction publications.
In 100% of the cases, all available corrections  • Knowled records	iffic: Knowledge of publication updating and correction recordkeeping procedures for company or ship.

-	-	-							
TASK CODE:	I.A.	7							
	WORKER	<b>JRKER FUNCTION LEVEL</b>	VEL AND ORIENTATION	FATION		NO BREE	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUA
4	80	1.4	5	1A	15	7	7	8	7

LANGUAGE

		١
		l
		١
		I
		۱
		ı
		ı
		١
	Ê	١
	Prepare for voyage.	
	oye	
	>	
	for	
	a	
	par	
	re	
	ы	
	GOAL	
	60	
	4.	
	I.A	
	,	
	نن	
	TASK CODE	
	SKC	
	TAS	
-		

Select route, plot track, and estimate timing. OBJECTIVE:

TASK: Studies (examines and evaluates) navigational charts in order to understand and familiarize self with pertinent data shown, such as basic measurement units, geographic limits, patterns of shoal and deep water, abnormal patterns of bottom contour, land contour, variation of magnetic compass.

PERFORMANCE STANDARDS	TRAINING CONTENT
escriptive: Thoroughly examines charts.	Functional:  • How to read navigational charts.
<pre>immerical:     In 100% of the cases, understands all of the markings     on navigational charts.</pre>	Specific: <ul> <li>Location of navigational charts on particular ship.</li> </ul>

	VELOPMENT	LANGUAG	6
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	3
	GENERA	REASONING	3
	advacw	INSTRUCTIONS	3
		%	35
	TATION	THINGS	3A
	AND ORIENTATION	%	5
	NORKER FUNCTION LEVEL	PEOPLE	IA
I.A.5	WORKER	%	09
TASK CODE:		DATA	38

LANGUAGE

TASK CODE:	I.A.5	GOAL: Prepare for voyage.
OBJECTIVE:	Select route,	Select route, plot track, and estimate timing.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
• Track drawn is most expeditious, economical and safe.	• How to use navigational charts and publications.
• Clearly and accurately draws track.	<ul> <li>How to compute angles and bearings.</li> </ul>
Numerical:	<ul> <li>Knowledge of the effect of various sea and atmospheric conditions on ship movement.</li> </ul>
• In 100% of the cases, track drawn is most expeditious, economical and safe.	Specific:
	<ul> <li>Knowledge of particular water, land and atmospheric characteristics and conditions along intended route.</li> </ul>
	<ul> <li>Knowledge of international/national/company routes appropriate to area of intended travel.</li> </ul>

TASK CODE:	I.A.6	9.							
	WORKER	JORKER FUNCTION LEVEL	AND ORIENTATION	TATION		azyaow	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAGE
3.8	80	IA .	5	3A	15	3.	7	7	4

						WORKER		The second secon		
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAGE	r
3B	80	1A .	5	3A	15	. ε	7	7	7	
										1
TASK CODE:	, I.A.6		GOAL: P	Prepare for voyage.	yage.					_
OBJECTIVE:	Select	Select route, plot track,		and estimate timing.	iming.					
TASK: Compu mated du mated sp	ration of	SK: Computes the direction and veloci mated duration of voyage, using tida mated speed of advance, in order to	d velocit ing tidal rder to d	y (set and di current char etermine cou	rift) of trs, currected sand s	TASK: Computes the direction and velocity (set and drift) of the current at various points along the route for the estimated duration of voyage, using tidal current charts, current diagrams, and knowledge of time of departure and estimated speed of advance, in order to determine courses and speeds throughout the voyage.	ous points alon nowledge of tim ne voyage.	ig the route fine of departur	or the esti- e and esti-	T

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-9	Descriptive:	Functional:
9	<ul> <li>Properly estimates set and drift of current.</li> </ul>	. How to use current charts and current diagrams.
	Numerical:	• How to calculate set and drift.
	• In 100% of the cases, calculates required ship	How to compensate for set and drift.
	courses and speeds over the ground in order to remain on track.	Specific:
		<ul> <li>Knowledge of time of departure and estimated speed of advance for particular voyage.</li> </ul>

INSTRU	
%	
THINGS	
%	
PEOPLE	
%	00
DATA	
	% PEOPLE % THINGS %

	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	EL AND ORIER	VTATION		WORKER	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
4	80	1A	5	3A	15	5	5	7	7
TASK CODE:	I.A.7		GOAL: Pr	repare for voyage.	yage.				

-		The same of the sa	The state of the s				Control of the second s	Control of the Contro	The second second second second	The second secon		TO STATE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO I							
TASK	Computes, notes, and plots along previously marked track indications of turning points, turning bearings, danger	notes,	and plo	its al	id Suo	reviou	sly ma	rked	track	indica	tions	of tur	ming	points	, turni	ng bearin	ngs, d	anger	
angl	angles, danger bearings, arc of visibility of lights, light bearings, estimated times of arrival at strategic points,	bearing.	s, arc	of vi	sibili	Lty of	light	s, 1ig	ght be	arings	, esti	Lmated	times	of ar	rival a	it strateg	gic po	ints,	
area	areas requiring reduced speed, ranges for observing ship's position, useful radar targets, radiobeacons, loran rates	g reduce	paads pa	i, ran	ges fo	or obs	erving	ship;	sod s	ition,	nsefr	il rada	ar tar	gets,	radiobe	acons, lo	oran ra	ates	
(1f	(if equipment to utilize them is available), using knowledge of ship navigation, own ship's characteristics, and updated	to utili	ize them	ı is a	vailab	, (elc	using	knowle	edge o	f ship	navig	gation,	, own	ship's	charac	teristics	s, and	update	p
naui	navioation references	prences																	

Select route, plot track, and estimate timing.

OBJECTIVE:

navigation references.	
PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
• Accurately computes and plots information.	• How to use navigational publications and references.
• Information is plotted clearly and according to	<ul> <li>How to read navigation cnarts.</li> </ul>
standard methodology.	<ul> <li>Knowledge of ship systems and capabilities.</li> </ul>
Numerical:  In 100% of the cases committed and plotted infor-	• Knowledge of the effect of various sea and atmospheric conditions on ship movement.
mation is accurate and complete.	<ul> <li>How to use navigational equipment and aids to navigation.</li> </ul>
	• How to compute angles and bearings.
	Specific:
	• Knowledge of particular ship's characteristics, ship's systems, and equipment capabilities.
	• Knowledge of particular water, land and atmospheric characteristics/conditions along intended route.
	• Knowledge of particular aids to navigation, traffic flow, and obstacles along intended route.

	I.A.8						
1	WORKER	ORKER FUNCTION LEVEL AND ORIENTATION	AND ORIEN	TATION		o a a a a a a a a a a a a a a a a a a a	GENE
_	%	PEDPLE	%	THINGS	%	INSTRUCTIONS	REASONING
+	96	1A	5	14	5	3	3

	-	-	-			The second secon	The state of the s	The second secon	
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	L AND ORIEN	TATION		WORKER	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	этасза	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAGE
2	06	1A ·	5	1A	5	3	3	1	3
TASK CODE:	I.A.8		GOAL: Pre	GOAL: Prepare for voyage.	age.				
OBJECTIVE:	Selec	Select route, plot track,	lot track,	and estimate timing.	e timing.				
TASK: Prep intended and own ka	ares (wr. track, su nowledge	ites out) a uch as sight of events o	chronolog tings, cou	ical listing rse and speed	of expec d changes vigationa	TASK: Prepares (writes out) a chronological listing of expected/significant navigational events that should occur along intended track, such as sightings, course and speed changes, time zone changes, using information from charted track and own knowledge of events of significance for navigational purposes, in order to alert bridge personnel to expected	igational even , using inform r to alert bric	ts that should ation from challed	l occur along arted track to expected

	i, course and speed changes, time zone changes, using information from charted track	and own knowledge of events of significance for navigational purposes, in order to alert bridge personnel to expected	
LASK.	intended track, such as sightings, course and spe	and own knowledge of events of significance for n	navigational occurrences.

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-1	Descriptive:	Functional:
1	<ul> <li>Accurately and neatly prepares list.</li> </ul>	<ul> <li>How to read navigational charts and track information noted thereon.</li> </ul>
	Numerical:	<ul> <li>How to estimate the time at which events should occur.</li> </ul>
	<ul> <li>In 100% of the cases, includes all events of navi- gational significance to bridge personnel.</li> </ul>	Specific:
		<ul> <li>Knowledge of particular intended track.</li> </ul>
		<ul> <li>Knowledge of events of navigational significance along intended track.</li> </ul>
		<ul> <li>Knowledge of expected speed over the ground for specific intended track.</li> </ul>

Objective I.B: Ensure that all navigational aids, steering, propulsion system and associated equipment are available and in proper operating order

TASK CODE:	I.B.1								
	WORKER	NORKER FUNCTION LEVEL AND ORIENTATION	AND ORIEN	TATION		азивом	GENERA	GENERAL EDUCATIONAL DEVEL	
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	
1	20	1A .	5	3A	75	2	2	1	

LANGUAGE

7

ELOPMENT

TACK CODE.	1.8.1	. 1403	Prepare for voyage.	or vo	yage.								
HASH CODE:		DOME.											
OBJECTIVE:	Ensure that all navigat	all naviga	tional aid	ds, s	teering,	propulsion	system	and a	ssociated	equipment	are a	riowal aids, steering, propulsion system and associated equipment are available and	
in proper	in proper operating order.												

TASK: Removes from storage, inspects, and places in prominent location all plotting equipment, such as parallel rulers, compasses, protracters, dividers, pencils, erasers, etc., in order to ensure easy access to such equipment during voyage.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:  • Ensures that equipment is in good working order.  • Plotting equipment is secured for sea, but is readily accessible when needed.  Numerical:  • In 100% of the cases, all appropriate plotting equipment is available when needed.	Functional:  • Familiarity with and knowledge of uses of equipment needed to plot course.  Specific: • Knowledge of storage location of plotting equipment in particular ship.

TASK CODE:	I.B.2								
	WORKER	VORKER FUNCTION LEVEL AND ORIENTATION	AND ORIEN	TATION		WORKER	GENERA	GENERAL EDUCATIONAL DEVEL	
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	
2	09	1A	5	10	35	2	2	3	

		The second secon							
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	EL AND ORIEN	UTATION		азхасм	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAGE
2	09	1A	5	10	35	2	2	3	3
TASK CODE:	I.B.2	2	GOAL: Pre	GOAL: Prepare for voyage.	age.				
OBJECTIVE: and in pro	Ensul	NATIONE: Ensure that all navigand in proper operating condition.	navigatio Ltion.	nal aids, st	eering, pl	Ensure that all navigational aids, steering, propulsion system and associated equipment are available operating condition.	d associated eq	quipment are a	vailable
TASK: Visually insponsible on gyro repeaters, navigational aids.	ally inspected by a single and a single and a single a si	pects and re	corder, ra	dings from maidio direction	agnetic con-	TASK: Visually inspects and records readings from magnetic compass and master gyro compass, and compares with readings on gyro repeaters, course recorder, radio direction-finder and radar repeaters, in order to ensure accuracy of these navigational aids.	yro compass, ar	nd compares wi	th readings y of these
		PERFORMANC	PERFORMANCE STANDARDS	SI			TRAINING CONTENT	ONTENT	

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-	Descriptive:	Functional:
14	<ul> <li>Accurately and completely makes and records readings.</li> </ul>	<ul> <li>How to use navigational direction-finding equipment.</li> </ul>
	• Inspection, recordings are timely before departure.	• How to calculate deviation, variation, and compass
	Numerical:	
	<ul> <li>In 100% of the cases, takes readings on all equipment.</li> </ul>	• Knowledge of type and location of navigational direction-finding equipment on narticular ship.
		Knowledge of compass deviation of own ship.

	VELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	2
	GENERA	REASONING	2
	WORKER	INSTRUCTIONS	2
		%	45
	ration.	THINGS	2A
	AND ORIENT	%	5
	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
I.B.3	WORKER	*	45
TASK CODE:		DATA	1

TASK CODE:	I.B.3	GOAL: Prepare for voyage.	voyage.				1
OBJECTIVE:	Ensure that all	navigational aids,	steering,	propulsion system and	1 associated	insure that all navigational aids, steering, propulsion system and associated equipment are available	
and in prop	and in proper operating condition.	lition.					

TASK: Visually inventories and inspects non-electronic navigational equipment, such as binoculars, alidades, sextants, azimuth circles, and peloruses, using own knowledge of how equipment functions, in order to ensure proper functioning and ready access during voyage.

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-1	Descriptive:	Functional:
15	<ul> <li>Accurately and completely inventories and inspects equipment.</li> </ul>	<ul> <li>How to identify malfunctions in non-electronic navigational equipment.</li> </ul>
	<ul> <li>Allows sufficient time to replace missing or defective equipment before sailing.</li> </ul>	Specific:
	Numerical:	<ul> <li>Knowledge of type, quantity, and location of non- electronic navigational equipment on particular ship.</li> </ul>
	<ul> <li>In 100% of the cases, inspects all non-electronic navigational equipment.</li> </ul>	

	FLOPMENT	LANGUAGE	61
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	2
	GENERAL	REASONING	2
	a sha con	INSTRUCTIONS	2
		%	30
	FATION	THINGS	10
	AND ORIENTATION	%	5
	NORKER FUNCTION LEVEL AN	PEOPLE	1.4
I.B.4	WORKER	%	9
TASK CODE:		DATA	2

TASK CODE:	1.8.4	GOAL: Prepare for voyage.
OBJECTIVE: and in prope	OBJECTIVE: Ensure that all naviga and in proper operating condition.	Ensure that all navigational aids, steering, propulsion system and associated equipment are available operating condition.
TASK: Turns gyro compass of component	on power supply o s, radio direction : parts, using own	TASK: Turns on power supply of electronic navigational aids, such as radar, loran, Decca, fathometer, sonic depth-finder, gyro compass, radio direction finder, following standard procedures, and visually inspects scopes, dials, and indicators of component parts, using own knowledge of equipment, in order to ensure that equipment is functioning.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
<ul> <li>Accurately energizes and inspects electronic navigational aids.</li> </ul>	• How to operate electronic navigational aids.
Numerical:	Specific:  Knowledge of operation of electronic navigational
• In 100% of the cases, ensures that all electronic navigational aids are performing within prescribed	aids for particular ship.
specifications.	

	ELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	1
	GENERAL	REASONING	3
	WORKER	INSTRUCTIONS	3
		%	07
	ration .	THINGS	2C
	AND ORIENTATION	%	30
	ORKER FUNCTION LEVEL AN	PEOPLE	2
1.0.3	WORKER	%	30
I ASK CODE:		DATA	2

	WURKER	WORKER FUNCTION LEVEL AND URIENTATION	L AND ORIEN	TATION		WORKER	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	VELUPMENT	-
DATA	*	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAGE	
2	30	. 2	30	2C	07	3	3	1	2	
										1 1
TASK CODE:	I.B.5		GOAL: Prepare	pare for voyage.	age.					
OBJECTIVE: and in pro	Ensur	NAMECTIVE: Ensure that all navigational and in proper operating condition.	navigatio tion.	aids,	eering, pr	steering, propulsion system and	associated equipment	uipment are a	are available	
Command the command of the command o	nunicates ency stee igine ord switche	Communicates with personnel in engine rand emergency steering gear and related elect ships), engine order telegraph, bridge/engine dials, and switches representing test maneuve standard tests of rudder and propeller shaft.	nnel in en nd relateo h, bridge, ing test i	ngine room to d electric ar /engine room naneuvers, ir shaft.	check ou nd hydraul telephone n order to	Communicates with personnel in engine room to check out bridge/engine room interfacing equipment, such as standard semengency steering gear and related electric and hydraulic transmission systems, throttle and COS alarms (on newer ships), engine order telegraph, bridge/engine room telephone, using own judgment of equipment and manipulation of knobs, dials, and switches representing test maneuvers, in order to ensure that equipment if functioning. (This task includes standard tests of rudder and propeller shaft.	m interfacing tems, throttle t of equipment ent if function	equipment, su and COS alar and manipula ning. (This	ent, such as standard S alarms (on newer anipulation of knobs, (This task includes	1
		PERFORMANCE STANDARDS	E STANDARD	S			TRAINING CONTENT	DNTENT		T-
Thorough  Numerical:  In 100%  room int	ighly and Sof the Interfact	Thoroughly and accurately checks rical: In 100% of the cases, checks out room interfacing equipment.		out equipment. all bridge/engine	gine	How to use communication and to use communication of the Knowledge of kinds of the bridge and engine room.  Specific:  Knowledge of bridge navroom equipment on parti	How to use communication systems between bridge and engine room.  Knowledge of kinds of equipment linkages between bridge and engine room.  Ific:  Knowledge of bridge navigational equipment and engine room equipment on particular ship.	stems between ment linkages ional equipme r ship.	bridge and between nt and engine	

 TASK CODE:	I.B.6								
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIENT	ration		anadom	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	314034	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGU
1	65	1A	5	10	30	2	2	2	2

	WUNKEN	WORKER FUNCTION LEVEL AND URIENTATION	AND URIEN	ALION		WORKER	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	FLOPMEN	
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE	1
1	65	1A	5	10	30	2	2	2	2	
										1 -
TASK CODE:	I.B.6		GOAL: Pr	Prepare for voyage.	yage.					-
OBJECTIVE: and in pro	Ensure per opere	OBJECTIVE: Ensure that all navigational and in proper operating order.	vigation	aids,	steering, pr	propulsion system and	associated equipment	are	available	
TASK: Visu ensure tha	ally insp t equipm∈	TASK: Visually inspects weather instruments, ensure that equipment is functioning.	instrum loning.		such as barographs,	anemometers,	thermometers, hy	hygrometers, in	order to	
		PERFORMANCE STANDARDS	STANDARD	50			TRAINING CONTENT	NTENT		
Descriptive:	e: ghly insp	riptive: Thoroughly inspects equipment.	nt.			Functional:  • How to use wea	tional: How to use weather measurement instruments.	nt instrument	ý	
Numerical:  In 100 are fu	% of the nctioning	In 100% of the cases, ensures that are functioning properly.		all instruments	n t s	Specific:  • Knowledge of type and for particular ship.	Knowledge of type and location of weather instruments for particular ship.	on of weather	instruments	
										$\overline{}$

	.7
1	m
	Ï
	ü
-	COD
1	TASK
1	-

VELOPMENT	LANGUAGE	1
GENERAL EDUCATIONAL DEVELOPMENT	МАТН	1
GENERAL	REASONING	1
WORKER	INSTRUCTIONS	1
	%	85
ration	THINGS	2A
AND ORIEN	%	5
WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
WORKER	%	10
	DATA	1

TASK CODE:	I.B.7	GOAL: Prepare for voyage.
OBJECTIVE: and in prop	OBJECTIVE: Ensure that all nand in proper operating condit	navigational aids, steering, propulsion system and associated equipment are available ition.

TASK: Tests and inspects lights and signaling equipment, such as navigation lights, searchlights, signal mast lights, aldis lamps, signal flags, day marks, ship's whistle, and bell and gong, in order to ensure that equipment is functioning.

# TRAINING CONTENT PERFORMANCE STANDARDS

	Knowle	dge	of	type	and	100	cation	of	Knowledge of type and location of lights, signaling	signal	fug
--	--------	-----	----	------	-----	-----	--------	----	---	--------	-----

## Knowledge of various navigation/safety lights and signal systems. Functional: Specific: In 100% of the cases, ensures that all lights and signaling equipment are functioning properly. Thoroughly tests and inspects equipment. Descriptive: Numerical: F-19

TASK CODE:	I.B.8								
	WORKER	WORKER FUNCTION LEVEL	N LEVEL AND ORIENTATION	FATION		O N	GENERA	GENERAL EDUCATIONAL DEVELOPM	VELOPM
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	77
2	35	2	30	2C	35	2	2	2	

-	1	1	1 1	T	T		
VELOPMENT	LANGUAGE	7		ailable	talkback system, ng.		ms. particular
GENERAL EDUCATIONAL DEVELOPMENT	МАТН	2		lipment are av	IF sets, talkb unctioning.	ONTENT	ications systess systems for
GENERAL	REASONING	2		associated equipment are available	nd portable VHF equipment is fun	TRAINING CONTENT	How to operate ship communications systems.  ific: Knowledge of communications systems for particular ship.
WORKER	INSTRUCTIONS	2		steering, propulsion system and	TASK: Tests all internal and external communications equipment, such as bridge and portable VHF sets, talemergency telephones, using own knowledge of equipment, in order to ensure that equipment is functioning.		Functional:  • How to operat  Specific: • Knowledge of ship.
	%	35	3e •	ering, pro	s equipmer		ations
TATION	THINGS	2C	are for voyage.	aids,	communications equipment, idge of equipment, in order		pment. all communications
AND ORIEN	%	30	GOAL: Prepare	avigation ion.	kternal c n knowled	STANDARDS	tion equi
WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	2		OBJECTIVE: Ensure that all navigational and in proper operating condition.	Tests all internal and external ncy telephones, using own knowl	PERFORMANCE STANDARDS	Thoroughly tests communication equipment.  rical: In 100% of the cases, ensures that all coequipment is functioning properly.
WORKER	%	35	I.B.8	Ensure per opera	s all int telephone		ghly test % of the ent is fu
	DATA	2	TASK CODE:	OBJECTIVE: and in prop	TASK: Tests emergency t		Descriptive:  Thorough  Numerical:  In 100%  equipmen

TASK CODE:	I.B.	6							
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIENT	TATION		asyacm	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAGE
2	35	1A	5	2A	09	2	2	2	7
		And the second s							

TASK CODE:	I.B.9	60AL: Prepare for voyage.	
OBJECTIVE: and in prope	SMECTIVE: Ensure that all navigand in proper operating condition.	Ensure that all navigational aids, steering, propulsion system and associated equipment are available operating condition.	available

ASK: Visually inspects safety equipment, including life boats, life rings, flares, dye markers, etc., using own knowledge of equipment and/or safety directives and equipment manuals, in order to ensure accessibility and good physical condition of equipment. TASK

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-2	Descriptive:	Functional:
21	<ul> <li>Thoroughly inspects safety equipment.</li> </ul>	<ul> <li>Familiarity with and knowledge of uses of ship</li> </ul>
	• Ensures physical condition is adequate for intended	safety equipment.
	need.	Specific:
	Numerical:	• Knowledge of the types and location of all safety
	<ul> <li>In 100% of the cases, ensures that all safety equip-</li> </ul>	equipment on particular sulp.
	ment is complete and operative.	<ul> <li>Knowledge of emergency plans and procedures for use of safety equipment on particular ship.</li> </ul>

Objective I.C: Ensure that all required pre-voyage administrative tasks are completed

	_			, ,		<del></del>	<del></del>	7	·
	VELOPMENT	LANGUAGE	3				ies/company of such docu- gal/adminis-		nts from tory infor- ping documents n departure
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	1				to port authorities/company of the existence of such do o comply with legal/adminis	NTENT	ipping docume rative/regula ation of ship ithorities upon
	GENERAL	REASONING	2			leted.	g articles, to g knowledge of in order to c	TRAINING CONTENT	How to identify various shipping documents from written or verbal administrative/regulatory information.  Ific:  Knowledge of types and location of shipping documents to be submitted to port authorities upon departure for particular ship.
	WORKER	INSTRUCTIONS	2			Ensure that all required pre-voyage administrative tasks are completed.	TASK. Identifies and submits shipping documents, such as crew lists and shipping articles, to port authorities/company agent, in accordance with port, company, and/or Coast Guard regulations, using knowledge of the existence of such documents or sources of written or verbal information identifying these documents, in order to comply with legal/administrative documentation and recordkeeping procedures.		Functional:  How to identify variution.  Specific:  Knowledge of types a to be submitted to p for particular ship.
		%	20		rage.	ıdministra	th as crew ast Guard identifyin		ture.
	ENTATION	THINGS	1		Prepare for voyage.	pre-voyage a	cuments, suc iy, and/or Co information ig procedures		documents.
	AND ORIENT	%	10		GOAL: Pre	required	ipping do t, compan r verbal	STANDARDS	propriate s timely mits all
1	WORKER FUNCTION LEVEL AND ORI	PEOPLE	2 .			ire that all	Identifies and submits shipping documents, such agent, in accordance with port, company, and/or Coaments or sources of written or verbal information itrative documentation and recordkeeping procedures.	PERFORMANCE STANDARDS	Identifies and submits appropriate documents.  Submission of documents is timely before departure.  In 100% of the cases, submits all appropriate documents.
I.C.1	WORKER	%	70		I.C.1	Ensu	ntifies an in accorda sources documenta		riptive: Identifies an Submission of rical: In 100% of th documents.
TASK CODE:		DATA	2		TASK CODE:	OBJECTIVE:	TASK: Ider agent, i ments or trative		Descriptive:  Identifi  Submissi  Numerical:  In 100% document

Goal II: Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own ship, or other vessels

Objective II.A: Make final preparations to berth/unberth ship.

30
S
SK

	-	
FLOPMENT	LANGUAGE	1
GENERAL EDUCATIONAL DEVELOPMENT	МАТН	3
GENERAL	REASONING	8
WORKER	INSTRUCTIONS	2
	%	35
TATION	THINGS	18
	%	5
WORKER FUNCTION LEVEL AND ORIEN	PEOPLE	1A
WORKER	%	09
	DATA	3A

	OWD		
	pnon,		
	mooring		
	pier,		
	whart,		
	Berth/unberth ship expeditiously without damaging wharf, pler, mooring buoy, own		
	without		
	itiously		
	pedxe	sels.	
	n ship	er ves	
	unbert	ship, or other vessels.	
	Berth/	ship,	
		60AL:	
-	11 4 1	11.0.11	
	2000 2004	I ASK CODE:	

### OBJECTIVE:

Make final preparations to berth/unberth ship.

TASK: Ascertains the forward, midships, and after drafts (visually; with draft gauges, if possible; or calculated from last known draft using Trim and Stability Book data) and calculates minimum depth of water in berth area, using Tide Tables, in order to determine the vessel's underkeel clearance at berth.

# PERFORMANCE STANDARDS

# Accurately determines drafts and water depth.

## Precisely calculates underkeel clearance from drafts and water depths.

## Numerical:

In 100% of the cases, tidal conditions and draft determinations are made within 0.1 foot accuracy.

## Functional:

TRAINING CONTENT

- How to read draft marks.
- How to use Tide Tables.
- affect How various conditions of "hog" and "sag" How to read draft gauges (if provided).

How to use Trim and Stability Book to calculate draft.

#### Specific:

- Knowledge of particular vessel's Trim and Stability Booklet and data.
- characteristics under various conditions of loading Knowledge of particular vessel's "hog" and "sag" or ballast.
- Knowledge of bottom and tidal characteristics of particular berth area.

Descriptive:

REASONING	3
WORKER INSTRUCTIONS	3
%	20
THINGS	1A
%	5
PEOPLE	1A .
%	75
DATA	3B
	% PEOPLE % THINGS % INSTRUCTIONS

				-			The same of the sa		
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	L AND ORIEN	TATION		WORKER	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	/ELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
3B	75	1A .	5	1.4	20	3	3	3	7
TASK CODE:	TASK CODE: II.A.2		GOAL: Shin	erth/unberth ship expe	ip expedi	erth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own	aging wharf, p	ier, mooring b	uoy, own
OBJECTIVE:		Make final preparations to berth/unberth ship.	ons to be	rth/unberth	ship.				

FASK: Ascertains port's physical and environmental characteristics, berthing facilities, local navigation rules and practices (including those applicable to pilotage), aids to navigation potential navigational hazards, and company policy, using appropriate navigational charts and publications, in order to prepare for berthing/unberthing maneuvers.
SHO

Make final preparations to berth/unberth ship.

TRAINING CONTENT	Functional:	How to read and interpret navigational charts and publications.	<ul> <li>How to relate these data to actual physical environment.</li> </ul>	Specific:	Knowledge of particular port, its aids to navigation	and potential navigational hazards, local navigation rules and practices, physical characteristics and environmental conditions.				
PERFORMANCE STANDARDS	Descriptive:	Adequately studies charts, publications and policies.  To thoroughly acquisinted with physical characteristics.	of port, prevailing environmental situation, local aids to navigation, potential navigational hazards, and local navigation rules and practices.		Numerical:	• In 100% of the cases, all relevant data are ascertained as dictated by the particular situation.				

	/ELOPMENT	LANGUAGE	3
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	3
	GENERA	REASONING	2
	MORKER	INSTRUCTIONS	2
		%	20
	FATION	THINGS	1.8
	AND ORIEN	%	5
	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
II.A.3	WORKER	%	75
TASK CODE:		DATA	2

			Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own
TASK CODE:	II.A.3	GUAL	ship, or other vessels.

### OBJECTIVE:

Make final preparations to berth/unberth ship.

MASK: Monitors wind direction and speed indicators and local communications circuits, and obtains/reviews information on tides and currents, in order to ascertain wind speed and direction, pertinent meterological data, and current/tide conditions. TASK:

	PERFORMANCE STANDARDS	TRAINING CONTENT
De	Descriptive:	Functional:
•	Correctly reads all instruments.	<ul> <li>How to read wind speed and direction indicators.</li> </ul>
•	Routinely ascertains pre-calculated tide and current	• Where to obtain tide and current data.
	data in area of berth.	<ul> <li>How to operate various communications circuits such</li> </ul>
N	Numerical:	as radiotelephone.

In 100% of the cases, readings and observations are within acceptable limits in accordance with particular situation.

# Knowledge of meteorological data provided by particular port and means to communicate with those sources.

along track and seasonal variations throughout the Knewledge of prevailing environmental conditions

range of expected values.

Specific:

# Knowledge of particular ship's communications equip-

THINGS % INSTRUCTIONS REASONING MATH LANG  2 2 2 2 2		VELOPMENT	LANGUAGE	2
N WORKER REASO HINGS % INSTRUCTIONS REASO		EDUCATIONAL DEV	MATH	2
N HINGS % II		GENERAL	REASONING	2
THINGS %		WORKER	INSTRUCTIONS	2
THINGS 2A			%	25
I E		ATION	THINGS	2A
AND ORIE %		AND ORIENT	%	57
WORKER FUNCTION LEVEL AND ORIENTATION           %         PEOPLE         %         T           30         2         45         T		FUNCTION LEVEL	PEOPLE	2
11.А.4 <b>WORKER</b> %	11.A.4	WORKER	%	30
ТАЗК СОDE: 11.А.4  WORKEF  DATA %  1 30	TASK CODE:		DATA	1

Berth/unberth ship expeditionsly without damaging wharf, pier, mooring buoy, own ship, or other vessels.		TASK: Communicates with port authorities in person or using communications equipment, in order to verify arrival/departure time, berth assignment, and readiness of pier and linehandlers, as applicable.	TRAINING CONTENT	
TASK CODE: II.A.4 GOAL: Ship, or other vessels.	OBJECTIVE: Make final preparations to berth/unberth ship.	TASK: Communicates with port authorities in person or using communications equitime, berth assignment, and readiness of pier and linehandlers, as applicable.	PERFORMANCE STANDARDS	

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-2	Descriptive:	Functional:
0	• Communication is timely before arrival/departure.	<ul> <li>What information must be communicated.</li> </ul>
	Numerical:	<ul> <li>How to operate various ship-to-shore communications equipment such as telephone and radio.</li> </ul>
	<ul> <li>In 100% of the cases, all pertinent information is exchanged, understood, and acknowledged.</li> </ul>	Specific:
		<ul> <li>Knowledge of own ship's time of arrival/departure pier requirements, and line handlers, as applicable.</li> </ul>
		<ul> <li>Knowledge of particular port's services and means to communicate with those services, including necessary "lead times."</li> </ul>
A STATE		<ul> <li>Knowledge of particular ship's communications equipment.</li> </ul>

TASK CODE:	II.A.5								
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIENT	FATION		andow	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
38	45	2	90	1.8	5	7	3	3	3

ACK FUNE: TT I			-	Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own
	TASK CODE:	II.A.5	GOAL:	ship, or other vessels.

OBJECTIVE: Make final preparations to berth/unberth ship.

Communicates to crew in person, or via internal communications equipment, the arrival/departure time and the type of moor, in order to prepare personnel for maneuvers and mooring stations. TASK

Descriptive:  Communication of information is clear and timely before arrival/departure.  Numerical:  In 100% of the cases, all pertinent information is directed to all appropriate personnel.  Knowledge of various types of moors (be starboard side to, Mediterranean, etc.)  How to use internal communications equalizative personnel.  Knowledge of details of berthing/unbermooring station assignments.  Knowledge of arrival/departure time.		
Function of information is clear and timely before departure.  of the cases, all pertinent information is to all appropriate personnel.	PERFORMANCE STANDARDS	TRAINING CONTENT
departure.  of the cases, all pertinent information is to all appropriate personnel.	Descriptive:	Functional:
of the cases, all pertinent information is ed to all appropriate personnel.	ation of information is departure.	• Knowledge of various types of moors (buoy, pier, starboard side to, Mediterranean, etc.).
% of the cases, all pertinent information is ed to all appropriate personnel.	Numerical:	• Ability to convey information.
Special	• In 100% of the cases, all pertinent information is	• How to use internal communications equipment.
<ul> <li>Knowledge of details of berthing/unber maneuvers for particular ship and port mooring station assignments.</li> <li>Knowledge of arrival/departure time.</li> </ul>	directed to all appropriate personnel.	Specific:
• Knowledge of arrival/departure time.		• Knowledge of details of berthing/unberthing maneuvers for particular ship and port, including mooring station assignments.
		<ul> <li>Knowledge of arrival/departure time.</li> </ul>

	VELOPMENT	LANGUA	7
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	2
	GENERAL	REASONING	7
	au XX	INSTRUCTIONS	7
		%	10
	ATION	THINGS	2A
	EL AND ORIENTATION	%	35
	JORKER FUNCTION LEVEL	PEOPLE	2
II.A.6	WORKER	%	55
TASK CODE:		DATA	3B
	-		-

LANGUAGE

TASK CODE: II.A.6	II.A.6	Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own 60AL ship, or other vessels.
OBJECTIVE:	Make final preparations	tions to berth/unberth ship.

TASK: Reads navigational publicates assistance, in order to ascerta	keads navigational publications, reviews company policy and port regulations pertaining to pilotage and tugboat	ions pertaining to pilotage and tugboat berthing/unberthing maneuvers, and
to request it it necessary.	t necessary.	

TRAINING CONTENT
PERFORMANCE STANDARDS

TR	
STANDARDS	
PERFORMANCE	

## Obtains complete and accurate information on nature, amount, and availability of assistance. Descriptive:

## Obtainment of information and initiation of communi-Clearly communicates with port authorities.

cation are timely before berthing/unberthing.

## Numerical:

## In 100% of the cases, obtains all necessary information and assitance.

## Functional:

- How to use communications equipment.
- How to understand terminology used in navigational publications.

### Specific:

Knowledge of particular company policy and port regulations regarding pilot/tugboat assistance.

1	
1	
1	
1	
1	
1	-
1	-
	-
	-
1	
1	-
1	-
1	
1	
1	
1	
1	u
1	-
1	
1	
	-
1	
1	-
	-
	-
	٠,
1	41

MENT ANGUAGE 3	
LA	
GENERAL EDUCATIONAL DEVELOPMENT NING MATH LANG	
GENERAL REASONING	
WORKER INSTRUCTIONS	
%	
THINGS 1C	
WORKER FUNCTION LEVEL AND ORIEN           %         PEOPLE         %           50         2         35	
WORKER %	
DATA	

### OBJECTIVE:

Make final preparations to berth/unberth ship.

of the three, in order to establish the communications necessary for berthing/unberthing and to ensure understanding Exchanges maneuvering information with persons-in-charge of other vessels (including tugboats, if applicable), using bridge-to-bridge radiotelephones, ship-to-shore communications equipment, whistle signals, or any combination intended movements of all pertinent vessels.

# PERFORMANCE STANDARDS

## Descriptive:

# Proper communication procedures are used.

# Communications are appropriately timed and complete.

### Numerical:

# In 100% of the cases, clarification is requested in all instances of uncertainty.

# In 100% of the cases, berthing/unberthing does not proceed until all appropriate communciations have been made.

## TRAINING CONTENT

Functional:

# How to operate vessel's communication equipment.

# Knowledge of standard communications procedures. Knowledge of navigational terms and phraseology.

### Specific:

- Knowledge of radiotelephone on particular vessel (including harbor frequency).
- Knowledge of communications practices/procedures used at the particular terminal.

TASK CODE: II.A.8	II.A.8								
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIEN	FATION		WORKER	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUA
38	80	1.4	5	1.4	15	5	5	7	7

The second secon	LANGUAGE	4	own, own
	МАТН	7	, mooring bu
Commission of the Commission o	REASONING	5	iging wharf, pier
WORKED	INSTRUCTIONS	5	GOAL: Shir, or other weesels
the same of the same of the same	%	15	p expedit
Contraction of the Contraction o	THINGS	1A	/unberth shi
The second secon	%	5	Berth
The second secon	PEOPLE	14	
AND DESCRIPTION OF PERSONS ASSESSMENT	%	80	II.A.8
-	DATA	38	SK CODE:

TASK CODE:	II.A.8	Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own 60AL ship, or other vessels.

### OBJECTIVE:

Make final preparations to berth/unberth ship.

Reviews standard and emergency plans for intended berthing/unberthing, using company policy appropriate navigational references, and knowledge of own ship and local conditions, in order to be familiar with shiphandling procedures associated with specific berth approach/departure. TASK

TRAINING CONTENT
PERFORMANCE STANDARDS

# Reviews plans carefully, precisely and thoroughly. Descriptive:

# Familiarization is timely before port arrival/departure.

## Numerical:

# In 100% of the cases, all pertinent data are reviewed.

## General knowledge of ship systems and capabilities. How to use and read navigational charts and publi-General knowledge of the effect of various sea and cations.

Functional:

atmospheric conditions on ship movement.

Specific:

## Knowledge of particular water, traffic characteristics, prevailing land and atmospheric characteristics, and conditions in berth area, including seasonal variations throughout range of expected values.

# Knowledge of particular ship characteristics, ship system and equipment, and crew capabilities.

	/ELOPMENT	LANGUAGE	м
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	6
	GENERAL	REASONING	4
	MARKER	INSTRUCTIONS	7
		%	5
	ration	THINGS	1
	AND ORIENT	%	5
	VORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	2
II.A.9	WORKER	%	06
TASK CODE: II.A.9		DATA	4

Berth/unberth ship expeditionsly without damaging wharf, pier, mooring buoy, own ship, or other vessels.
--

OBJECTIVE:

Make final preparations to berth/unberth ship.

MANK: Analyzes and evaluates all pertinent information (traffic and obstacles, rules and regulations, weather and water conditions, personnel readiness, other vessel conditions), in order to decide how or whether to proceed with berthing/unberthing maneuvers. TASK:

	TRAINING CONTENT	Functional:	• Knowledge of standard procedures for berthing/unberth-ing.	• Knowledge of rules and regulations applicable to terminal areas.	• Understanding of effects of conditions on vessel handling requirements/limitations (e.g., closest point of approach in relation to vessel speeds, tides).	How to maneuver vessel of comparable size in restricted waters with high traffic density.	Specific:	• Knowledge of procedures, rules and regulations applicable in specific location.	• Knowledge of maneuvering capabilities of particular vessel in specific locale as it may be affected by prevailing environmental conditions throughout the range of expected values.	
dilucat tittis malledvets.	PERFORMANCE STANDARDS	Descriptive:	• Safety considerations are given priority in decision-making.	• Appropriate factors enter into the analysis. • Decision is made quickly.	Numerical:  In 100% of the cases, all pertinent variables are	considered.  In 100% of the cases, all berthing/unberthing maneuvers,	once initiated, are completed without casualty or other negative results, such as inappropriate interference	with the movement of other vessel(s).		

Objective II.B: Maneuver ship into/away from berth, mooring buoy, or anchorage, as applicable, while avoiding rammings and groundings

Control of the last of the las	II.B.1
	3
I	C
١	×
ı	d

	VELOPMENT	LANGUAGE	
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	-
	GENERAL	REASONING	3
	WORKER	INSTRUCTIONS	3
	ITATION	%	25
		THINGS	1A
	AND ORIEN	%	5
	IORKER FUNCTION LEVEL AND ORIE	PEOPLE	1A
The second secon	WORKER FL	%	70
		DATA	2

	TT B 1		Berth/unberth ship expeditiously without damaging whari, pier, mooring buoy, own
TASK CODE:	11.7.1	GUAL	ship, or other vessels.

Maneuver ship into/away from berth, mooring buoy, or anchorage, as applicable, while avoiding rammings, and groundings. OBJECTIVE:

MASK: Visually scans the waters surrounding the berth area, mooring buoy, or anchorage, as applicable, utilizing the naked eye and binoculars in order to detect and identify navigational hazards. TASK:

# TRAINING CONTENT PERFORMANCE STANDARDS

## How to use binoculars.

Functional:

# How to visually recognize hazards such as floating debris, shallow water, etc.

### Specific:

# • Knowledge of special hazards to navigation known in particular locale.

In 100% of the cases, all navigational hazards are

detected and identified.

Accurately and promptly identifies various navi-

gational hazards.

Numerical:

Thoroughly scans the surrounding waters.

#### F-36

Descriptive:

1	
•	
ı	
•	~
	61
	~
	~
1	_
1	1
	-
	-
ı.	
١.	DOE
	-
	-
	_
	-
	SK
	5
	ASK COD

Г

		E	
	VELOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	3
	GENERA	REASONING	3
	WORKER	INSTRUCTIONS	3
		%	07
	ATION	THINGS	3A
	AND ORIENT	%	5
	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
II.B.2	WORKER	%	55
TASK CODE: II.B.2		DATA	2

2000	11.8.2		Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own
ASK CODE:		GOAL	ship, or other vessels.

OBLECTIVE: Maneuver ship into/away from berth, mooring buoy, or anchorage, as applicable, while avoiding rammings, and groundings.

Operates the radar and fathometer in order to detect and identify navigational hazards. TASK:

#### How to manipulate radar unit, i.e., vary range scales, circles and lines, true or relative motion mode, etc. sector search selector, intensity, range and bearing How to manipulate fathometer unit, i.e., vary depth How to detect and identify navigational hazards on Knowledge of special hazards known in particular TRAINING CONTENT scale, intensity, etc. radar and fathometer. Functional: Specific: • • Selects the optimum combination of range scales, sector Accurately detects various navigational hazards on Accurately detects any navigational hazards (1.e., In 100% of the cases, all navigational hazards are search, intensity, etc., for the most accurate and prompt detection of navigational hazards. PERFORMANCE STANDARDS proximity of bottom) on fathometer. Descriptive Numerical:

Knowledge of individual ship's particular radar unit.

•

•

locale which present radar targets.

•

detected.

Knowledge of individual ship's particular fathometer unit.

	WORKER	ORKER FUNCTION LEVEL	L AND ORIENTATION	TATION			GENERA	GENERAL EDUCATIONAL DEVELOPMEN	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	WORKER	REASONING	MATH	LANGUAGE
2	75	1A	5	IA	20	2	2	3	3

TT D 3		berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own	
TASK CODE: 11.D.3	GOAL:	ship, or other vessels.	

OBJECTIVE: Maneuver ship into/away from berth, mooring buoy, or anchorage, as applicable, while avoiding rammings, and groundings.

Monitors wind direction and speed indicators and obtains/reviews information on tides and currents, in order to ascertain wind, current, and tide conditions. TASK

TRAINING CONTENT	Functional:	• How to read wind speed and direction indicators.	• Where to obtain tide and current data.	Specific:	• Knowledge of prevailing environmental conditions in locale and seasonal variations throughout the	range of expected values.			
PERFORMANCE STANDARDS	Descriptive:	• Correctly reads all instruments.	<ul> <li>Routinely ascertains pre-calculated tide and current data in berth vicinity.</li> </ul>	Numerical:	• In 100% of the cases, readings and observations are	within acceptable limits in accordance with particular situation.			

Г	_
	<b>\</b>
	~
	-
	H
	ü
	00
	000
	TASK
1	TA

ELOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMENT	МАТН	2
GENERAL	REASONING	1
a six a com	INSTRUCTIONS	2
	%	10
TATION	THINGS	1A
AND ORIENT	%	5
WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
WORKER	%	85
	DATA	1

OWN		-
buoy,		
mooring		
pier,		-
thout damaging wharf, pier, mooring buoy, own		
without dam		
rth/unberth ship expeditiously without	els.	
th ship e	L ship, or other vessels	
unper	or oth	
Berth	ship,	
	LOAL	
11.8.4		
	ASK CODE:	

Maneuver ship into/away from berth, mooring buoy, or anchorage, as applicable, while avoiding rammings, and groundings. OBJECTIVE

Reads dials of instruments such as compass, rudder angle indicator, throttle position indicator, speed indicator, chinery and propulsion system audio and visual failure alarms, in order to ascertain heading, speed, rudder angle, and TASK: Reads dials of instruments such as compass, rudger angle inqueator, infortie position indicator, speed indicator, and listens for steering manand RPM indicator; looks and listens for steering manand RPM indicator; looks and listens for steering manand representations. propeller speed, and to monitor operating conditions of steering and propulsion systems.

# TRAINING CONTENT PERFORMANCE STANDARDS

Functional

# • How to read compass, rudder angle indicator, throttle position indicator, speed indicator, and RPM indicator.

# • How to monitor steering and propulsion system status indicators.

# How to recognize audio and visual failure alarms for steering and propulsion system.

In 100% of the cases, readings and observations are within acceptable limits in accordance with particular

situation.

### Specific:

 Knowledge of location, arrangement, and characteristics of particular indicators, displays, and alarms on specific ship.

Descriptive:

Numerical:

Correctly reads and surveys all instrumentation.

ŧ	
١	
ł	
ł	
Ì	
ł	
ı	
1	
١	5
۱	
Į	m
l	
ĺ	
1	
١	
١	
ſ	
١	o
١	0
1	C
1	×
ĺ	S
ı	-

FLOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMENT	MATH	2
GENERAL	REASONING	2
WORKER	INSTRUCTIONS	3
	%	10
NTATION	THINGS	2B
	%	5
VORKER FUNCTION LEVEL AND ORIE	PEOPLE	1A
WORKER	%	85
	DATA	2

1000	t a t t	000	Berth	/unberth	ship	Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own	without	damaging	wharf,	pier,	mooring bu	oy, own	
ASK CODE:	C.B.11	LOAL	ship,	ship, or other vessels	r ves	ship, or other vessels.							

Maneuver ship into/away from berth, mooring buoy, or anchorage, as applicable, while avoiding rammings, and groundings. OBJECTIVE:

Monitors voice radio (bridge-to-bridge, ship-to-shore, and vessel traffic system (VTS) network, as applicable) and internal communication systems in order to maintain radio watch during berthing/unberthing maneuvers. TASK:

# TRAINING CONTENT PERFORMANCE STANDARDS

# Descriptive:

# Efficiently monitors all communications applicable to own ship and situation.

Is attentive to all voice radio traffic.

## Numerical:

## In 100% of the cases, all pertinent communications are detected, understood, and acknowledged. •

### How to operate various radio frequency (rf) equip-Knowledge of voice radio communication procedures. Functional: ment. Specific:

# Knowledge of availability of various rf networks in particular locale.

#### F-40

•	
	v.
1	-
	- 4
	M
	R
	17.
•	- 2
1	
	1
	-
1	
	CODE
	=
	•
	200
	ASK
	-
	0
	-

	FLOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	7
	GENERAL	REASONING	3
	asyaow	INSTRUCTIONS	3
The second second second second		%	50
The second secon	<b>TATION</b>	THINGS	3A
The second secon	AND ORIENT	%	5
	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A .
	WORKER	%	45
		DATA	3B

	, ,		Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own
TASK CODE:	11.B.6	GUAL	AL: ship, or other vessels.

OBJECTIVE: Maneuver ship into/away from berth, mooring buoy, or anchorage, as applicable, while avoiding rammings, and groundings.

Determines ranges to and bearings of fixed aids to navigation (reference points) when anchoring, using visual navigation equipment such as stadimeter, alidade, and pelorus, and/or electronic equipment such as radar, in order to estab-lish navigational position for "letting go" anchor. TASK

# Functional PERFORMANCE STANDARDS Descriptive

Correctly employs electronic navigation system(s) and

accurately reads system output.

Numerical:

Properly utilizes visual navigation instruments.

# How to select reference points for ranges and bearings.

TRAINING CONTENT

# How to use visual navigation instruments such as stadimeter, alidade, or pelorus.

### Specific:

In 100% of the cases, ranges and bearings are determined and within acceptable limits commensurate with

ship characteristics, the particular anchorage, and

prevailing environmental situation.

- Nowledge of local fixed aids to navigation.
- Knowledge of availability and reliability of electronic navigation systems at particular anchorage.
- Knowledge of particular ship's electronic navigation system(s).

#### F-41

TASK CODE:	II.B.7								
	WORKER	ORKER FUNCTION LEVEL	L AND ORIENTATION	TATION		200	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUA
58	06	1A	5	1A	5	5	9	7	3

LANGUAGE

Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own	undt. ship, or other vessels.
F. II B 7	E. 14.D./
TACK	ו אפע רחח

Maneuver ship into/away from berth, mooring buoy, or anchorage, as applicable, while avoiding rammings and groundings. OBJECTIVE:

both onboard and external ancilliary equipment, and own ship's mission (purpose and goals), in order to determine course Examines and evaluates total data input concerning environmental situation, own ship's characteristics, status of of action to maneuver into/away from berth, mooring buoy, or anchorage, as applicable, while simultaneously avoiding ran

	TRAINING CONTENT
anmings and groundings.	PERFORMANCE STANDARDS

# Anticipates any and all possibilities which may arise. Descriptive:

## various action options as situation changes or pro-Maintains sense of proportion among input data and Continually maintains mental alertness, i.e., is vigilant

# Makes decision in timely manner commensurate with situation.

gresses

### Numerical:

and evaluated in accordance with the particular situa-In 100% of the cases, all pertinent data are examined tion before decision is reached.

#### ship), and environmental factors as they relate to ship mental conditions at particular locale and the seasonal ancilliary equipment (both onboard and external to the Understands interrelationships which exist among ship, controllability in shallow water and alongside berth, istics as they may be affected by prevailing environvariations of those environmental conditions through Knowledge of specific ship's hydrodynamic characterat mooring buoy, and at anchorage, as applicable. the range of expected values. Functional: Specific:

- side ancilliary equipment provided in particular locale Knowledge of own ship's ancilliary equipment and shoreas they affect ship hydrodynamics and as they may be affected by varying local environmental conditions.
- Knowledge of particular berth and adjacent waters.

-	
•	
1	
•	
1	
ı	
	$\alpha$
•	
	II.B.8
t	<b>E</b>
	•
	_
1	
i	
1	
1	
1	•
1	-
•	_
	-
	_
	-
1	*
1	
•	•
ı	
1	TASK CODE:
_	_

VELOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMENT	МАТН	1
GENERAL	REASONING	7
asyaom	INSTRUCTIONS	3
	%	5
TATION	THINGS	10
AND ORIENT	%	06
WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	. 5
WORKER	%	5
	DATA	2

	_	
	IMO .	
	ono	
	gul	
	DOOR:	
	er, 1	
	, pi	
	harf	
	n gu	
	magi	
	t da	
	erth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own	
	w y	
	ousl	
	diti	
	expe	sels,
	ship	ship, or other vessels.
	rth	ther
	aqun	or o
	rth/1	ip
	Be	sh
		e U A
		20
		I.B.
		T
	100	CODE
	200	ASK
- 1		

OBJECTIVE: Maneuver ship into/away from berth, mooring buoy, or anchorage, as applicable, while avoiding rammings, and groundings.

IADAR: Conveys navigation orders to other bridge personnel (and tugboat operators, line handlers, buoy party, and anchor detail, as applicable) and verifies their comprehension, utilizing standard procedures and phraseology, in order to execute decisions for ship control. TASK:

Des	Descriptive:  Is precise and timely in conveying navigational orders.  Ensures full understanding of order by other personnel	Functional:  • How to phrase navigational orders.
	before, during, and after its execution.	Specific:

Knowledge of bridge, line handling, and anchor detail organization for berthing/unberthing.

In 100% of the cases, orders are understood by ap-

propriate personnel.

Numerical:

#### F-43

as A d OW	INSTRUCTIONS	
	%	50
ATION	THINGS	18
AND ORIENT	%	2
FUNCTION LEVEL	PEOPLE	18
WORKER	%	45
	DATA	2
	WORKER FUNCTION LEVEL AND ORIENTATION	ER FUNCTION LEVEL AND ORIENTATION PEOPLE % THINGS % IN

LANGUAGE

REASONING

GENERAL EDUCATIONAL DEVELOPMENT MATH

TASK CODE:	TASK CODE: II.B.9	GOAL:	Serth ship,	Berth/unberth ship expersions ship, or other vessels.	th shi her ve	sexped:	1tlous	Ly with	out da	ımagıng	wnari	pier,	Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own ship, or other vessels.	, Kong	DWn	
OBJECTIVE:	Maneuver ship into/away	to/away	from	berth,	moorin	g buoy,	or ar	chorag	e, as	applica	ible, w	hile an	from berth, mooring buoy, or anchorage, as applicable, while avoiding rammings,	rammings		
and gro	and groundings.															

MANN: Adjusts RPM or pitch (if controllable) of ship's propeller(s) utilizing engine order telegraph, bridge throttles, or internal communications circuits, in order to change ship's speed in maneuvering ship into/out of berth. TASK:

	PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:		Functional:
• Expeditiously and ac effect speed change.	Expeditiously and accurately manipulates equipment to effect speed change.	<ul> <li>How to operate engine order telegraph, bridge throttles, and communication circuits.</li> </ul>
Numerical:		Specific:
• In 100% of the cases, al. as ordered (or desired).	In 100% of the cases, all adjustments are made exactly as ordered (or desired).	<ul> <li>Special characteristics and location of own ship's equipment.</li> </ul>

г	
ı	
•	
1	
1	
	0
ł	_
1	-
1	C
	-
1	
	-
	-
ı	
1	•
	306
•	5
,	•
	-
	9

VELOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMEN	МАТН	1
GENERAL	REASONING	1
WORKED	INSTRUCTIONS	2
	%	90
ATION	THINGS	10
AND ORIENT	%	20
NORKER FUNCTION LEVEL AND ORIEN	PEOPLE	1A .
WORKER	%	45
	DATA	2

						The second secon					The second secon		
	11 8 10		Berth/	unberth	ship	Berth/unberth ship expeditiously without	y without	damaging	wharf,	pier,	it damaging wharf, pier, mooring buoy, own	OWD	
TASK CODE:	01.8.11	GOAL	ship,	ship, or other vessel	r vess	ressels.							

OBJECTIVE: Maneuver ship into/away from berth, mooring buoy, or anchorage, as applicable, while avoiding rammings, and groundings.

ASK: Turns ship's helm and reads compasses (gyro and magnetic) and rate of turn indicators (if provided) in order to change or maintain heading in maneuvering ship into/out of berth. TASK

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
<ul> <li>Routinely and accurately manipulates helm to change or maintain course.</li> </ul>	• How to operate a helm.
• Continuously monitors compass, rudder angle, and rate of turn indicator.	<ul> <li>How to read a compass.</li> <li>How to read a rudder angle indicator and a rate of turn indicator.</li> </ul>
Numerical:	<ul> <li>How to detect drift off desired heading.</li> </ul>
• In 100% of the cases, all readings of instrumentation are within acceptable limits in accordance with particular situation.	Specific:
• In 100% of the cases, all helm adjustments are made exactly as ordered (or desired).	<ul> <li>knowledge of specific snip's handling characteristics,</li> <li>i.e., rudder rate, lateral stability, rate of turn,</li> <li>etc.</li> </ul>

-
-
-
ODE
~
•
$\sim$
177
-
-
Š
S

VELOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMENT	MATH	en
GENERA	REASONING	7
WORKER	INSTRUCTIONS	7
	%	45
TATION	THINGS	2C
AND ORIEN	%	10
WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	2
WORKER	%	45
	DATA	3B

# Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own GOAL: ship, or other vessels. II.B.11 TASK CODE:

Maneuver ship into/away from berth, mooring buoy, or anchorage, as applicable, while avoiding rammings, and groundings. OBJECTIVE:

Utilizes such external assistance as mooring lines, anchor(s) and anchor chain(s), and tugboat(s), as applicable, in order to provide ancilliary control in changing ship's heading and/or speed while approaching or clearing berth, mooring buoy, or anchorage.

## PERFORMANCE STANDARDS

## Descriptive:

# Efficiently and correctly has ground tackle or mooring lines deployed to assist in turning ship's head and/or control its speed.

Properly has tugboat(s) apply necessary force vectors to assist in turning ship's head and/or control its speed.

### Numerical:

# In 100% of the cases, tugboat force vectors are applied such that ship's head is turned, and/or ship's speed is regulated according to need and is commensurate with particular situation.

particular situation. In 100% of the cases, ground tackle or mooring lines are deployed such that ship's head is turned, and/or ship's speed is regulated according to need and is commensurate with particular situation.

## TRAINING CONTENT

Functional

# • Understanding of uses and limitations of all ground tackle, including shackles, swivels, chain stoppers, capstans, windlasses, etc.

Understanding of uses and limitations of various types of mooring lines and mooring winches.

Understanding of uses and capabilities of tugboats as they relate to assisting in overall ship controllability.

Knowledge of cause and effect between external ancilliary controls and ship response as they may be affected by environmental conditions such as wind, current, and shallow water.

### Specific:

- Knowledge of particular tugboats and individual ship's mooring and anchoring systems and their interrelationships to ship controllability over the range of expected values for environmental variations at particular locale.
  - Knowledge of mooring/anchoring facilities at particular locale including bottom characteristics.

11.8.12
TASK CODE:

The state of the s	/ELOPMENT	LANGUAGE	2
the second secon	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	1
	GENERAL	REASONING	2
	WORKER	INSTRUCTIONS	2
		%	25
	ITATION	THINGS	10
	AND ORIENT	%	25
7,	WORKER FUNCTION LEVEL AND ORIEN	PEOPLE	2
71.6.11	WORKER	%	95
		DATA	3B

LANGUAGE	2	
		y own
		onq 81
	1	moorin
		oler, 1
		arf, F
PEASONING	2	lg wh
		Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy own
		hout
	2	y wit
		iously
0,	25	xpedit
		nip e
2	10	th sh
HINGS		GOAL: Berth/unberth ship exp
%	25	Serth/
`		GOAL: 1
reurle	2	
rec.		
9	20	
	5	
DATA	3B	ODE
DA		ASK CODE:

# ship, or other vessels.

Maneuver ship into/away from berth, mooring buoy, oranchorage as applicable, while avoiding rammings and groundings. OBJECTIVE:

TASK: Maintains with tugboat operators, line handlers, buoy party and/or anchor detail, using onboard communications equipment, when necessary, in order to receive information from, and to monitor status of, assisting tugboats, mooring lines, and anchor(s).

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
<ul> <li>Properly operates all communications equipment.</li> <li>Correctly interprets all feedback data.</li> </ul>	• How to operate onboard communications equipment such as radiotelephone, loud hailers, intercom, telephone, etc.
Numerical:  • In 100% of the cases, all pertinent feedback data are	How to interpret feedback communications for status of equipment.  .ta are
monityred and correctly interpreted.	Specific:
	• Knowledge of own ship's communications equipment.
	• Knowledge of communications to be employed for various situations at particular locals.

1	
Ł	
1	
	60
	$\overline{}$
	-
	m
	-
	II.B
	-
	-
	6.6
	LLE
	-
	=
	0
	_
	CODE
	×
	10
	~,
	Ø
	TASK

-	7	
FLOPMENT	LANGUAGE	
GENERAL EDUCATIONAL DEVELOPMEN	MATH	7
GENERAL	REASONING	1
O N	INSTRUCTIONS	Н
	%	80
TATION	THINGS	1
AND ORIENT	%	5
VORKER FUNCTION LEVEL AND ORIEN	PEOPLE	1
WORKER	%	15
	DATA	1

# Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own 60AL: ship, or other vessels. II.B.13 TASK CODE:

Maneuver ship into/away from berth, mooring buoy, or anchorage, as applicable, while avoiding rammings, and groundings. OBJECTIVE:

TASK: Sounds ship's whistle and dispalys required identification/signals/flags in accordance with Rules of the Road, in order to approach/leave berth safely and according to proper procedure.

PERFORMANCE STANDARDS

### Functional:

TRAINING CONTENT

- How to operate ship whistle.
- How to identify and use signal flags.
- Knowledge of Rules of the Road pertaining to whistle and flag signals.

### Specific:

 Knowledge of location of whistle controls (automatic and manual) and other day signals on particular ship.

### Numerical:

to arrival/departure.

signal flags.

Operation of whistle and displaying of flags is timely

Correctly operates whistle and displays appropriate

- In 100% of the cases, all appropriate whistle signals are sounded.
  - In 100% of the cases, all other appropriate day signals are displayed.

Descriptive:

Objective II.C: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable

1	
1	
١	
1	-
	0.
١	II
l	ü
ı	00
	3
-	AS
	-

		1	1
	VELOPMENT	LANGUAGE	
	NERAL EDUCATIONAL DEVELOPMEN	MATH	
	GENERAL	REASONING	3
	0 N	INSTRUCTIONS	3
Committee of the commit		38	25
The second secon	ATION	THINGS	1A
	AND ORIENT	%	5
The second secon	IORKER FUNCTION LEVEL AND ORIEN	PEOPLE	1A
	WORKER	%	70
		DATA	2

ASK CODE: II.C.I GOAL: ship, or other vessels.	Berth/unberth ship expeditiously without damaging whart, pier, mooring buoy
--	---

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable.

MASK: Visually scans the waters surrounding the berth area, mooring buoy, or anchorage, as applicable, utilizing the naked eye and binoculars in order to detect and identify navigational hazards.

#### How to visually recognize hazards such as floating Knowledge of special hazards to navigation known TRAINING CONTENT debris, shallow water, etc. How to use binoculars. in particular locale. Functional: Specific: In 100% of the cases, all navigational hazards are Accurately and promptly identifies various naviga-Thoroughly scans the surrounding waters. PERFORMANCE STANDARDS detected and identified. tional hazards. Descriptive: Numerical:

TASK CODE: II.C.2	II.C.2								
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIENT	FATION		askaom	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAG
2	55	1A	5	3A	07	3	3	3	1 =

LANGUAGE

	а	OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable.
	7, OWI	groun
	onq :	and
	Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own ship, or other vessels.	dngs, le.
	er, mo	ramm
	E, pie	ions,
	whari	ollis ge, a
	aging	roid c
	t dam	to av
	ithou	order buoy,
	ısly w	s in c
	lition	ition,
	expected services.	cond
-	Berth/unberth ship expe ship, or other vessels	rdous
	oerth othe	haza away
	th/unf	tally into/
	Ber shij	otent
	GOAL:	to pring
		OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable.
		and results
	.c.2	tify
	11	Iden imult
	TASK CODE: II.C.2	ECTIVE 11e s
	TAS	08J

Operates the radar and fathometer in order to detect and identify navigational hazards. TASK

	PERFORMANCE STANDARDS		TRAINING CONTENT
Ď	Descriptive:	Func	Functional:
•	Selects the optimum combination of range scales, sector search, intensity, etc., for the most accurate and prompt detection of navigational hazards.	•	How to manipulate radar unit, i.e., vary range scales, sector search selector, intensity, range and bearing circles and lines, true or relative motion mode, etc.
•	Accurately detects various navigational hazards on radar.	•	How to manipulate fathometer unit, i.e., vary depth scale, intensity, etc.
•	Accurately detects any navigational hazards (1.e., proximity of bottom) on fathometer.	•	How to detect and identify navigational hazards on radar and fathometer.
N	Numerical:	Spec	Specific:
•	In 100% of the cases, all navigational hazards are detected.	•	Knowledge of special hazards known in particular locale which present radar targets.
		•	Knowledge of individual ship's particular radar unit.
		•	Knowledge of individual ship's particular fathometer unit.

1	
	-
	-
	H
	Н
	H
	H
	I
	II
	II :
	II :
	11 ::
	II ::
	E: 11
	E: 11
	E: 11
	11 :30
	11 :30
	DE: 11
	05: 11
	105: 11
	11 :300
	00E: II
	005: 11
	11 :300
	11 :000:
	11 :300
	C005: II
	11 :3000 II
	( CODE: II
	K CODE: II
	K C005: II
	K CODE: II
	SK CODE: II
	SK CODE: II
	SK CODE: II
	SK CODE: II
	ASK CODE: II
	ASK CODE: II
	ASK CODE: II
	ASK CODE: II

-		
VELOPMENT	LANGUAGE	8
SENERAL EDUCATIONAL DEVELOPMEN	MATH	3
GENERAL	REASONING	2
O D N O O W	INSTRUCTIONS	2
	%	20
FATION	THINGS	1A
N LEVEL AND ORIENT	%	5
FUNCTION LEVEL	PEOPLE	1A
WORKER	%	75
	DATA	2

			Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own	OWn
TASK CODE:	II.C.3	GOAL:	ship, or other vessels.	

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable.

Monitors wind direction and speed indicators and obtains/reviews information on tides and currents, in order to ascertain wind, current, and tide conditions. TASK:

# TRAINING CONTENT Functional: PERFORMANCE STANDARDS Descriptive:

# How to read wind speed and direction indicators.

# Where to obtain tide and current data.

Routinely ascertains pre-calculated tide and current

data in berth vicinity.

Numerical:

Correctly reads all instruments.

### Specific:

# In 100% of the cases, readings and observations are within acceptable limits in accordance with particular situation.

Knowledge of prevailing environmental conditions in locale and seasonal variations throughout the range of expected values.

-
1
_
-
4
II.C
•
00
_
=
-
$\sim$
_
-
×
o
ASK
•
-
_

_		
/ELOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMENT	МАТН	2
GENERAL	REASONING	1
anyaom	INSTRUCTIONS	2
	%	10
ITATION	THINGS	1A
AND ORIENT	%	5
WORKER FUNCTION LEVEL AND ORIEN	PEOPLE	1A
WORKER	%	85
	DATA	1

	The second secon			
			Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own	u
TASK CODE:	II.C.4	GOAL	Al: ship, or other vessels.	
The same of the sa				-

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable. Reads dials of instruments such as compass, rudder angle indicator, throttle position indicator, speed indicator, chinery and propulsion system audio and visual failure alarms, in order to ascertain heading, speed, rudder angle, and and RPM indicator; visually scans steering and propulsion system status indicators; looks and listens for steering mapropeller speed, and to monitor operating conditions of steering and propulsion systems.

# TRAINING CONTENT PERFORMANCE STANDARDS

Functional:

# Descriptive: • Correctly reads and surveys all instrumentation.

position indicator, speed indicator, and RPM indicator.

How to monitor steering and propulsion system

status indicators.

How to read compass, rudder angle indicator, throttle

# In 100% of the cases, readings and observations are within acceptable limits in accordance with particular situation.

### Specific:

How to recognize audio and visual failure alarms for

steering and propulsion system.

# • Knowledge of location, arrangement, and characteristics of particular indicators, displays, and alarms on specific ship.

#### F-53

Numerical:

-	
-	
-	
-	.C.5
ı	II
-	ODE:
	ASK C
L	-

ELOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMEN	MATH	2
GENERAL	REASONING	2
WORKER	INSTRUCTIONS	3
	%	10
TATION	THINGS	2B
AND ORIEN	%	5
NORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
WORKER	%	85
	DATA	2

	E.		Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own
TASK CODE:	11.0.5	GOAL	L ship, or other vessels.

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable.

ASK: Monitors voice radio (bridge-to-bridge, ship-to-shore, and vessel traffic system (VTS) network, as applicable) and internal communication systems in order to maintain radio watch during berthing/unberthing maneuvers. TASK

PERFORMANCE STANDARDS	TRAINING CONTENT
	Functional:
Is attentive to all voice radio traffic.	<ul> <li>How to operate various radio frequency (rf) equipment</li> </ul>
Efficiently monitors all communications applicable to own ship and situation.	Knowledge of voice radio communication procedures.
	Specific:
In 100% of the cases, all pertinent communications are detected, understood, and acknowledged.	<ul> <li>Knowledge of availability of various rf networks in particular locale.</li> </ul>
	<ul> <li>Knowledge of specific rf equipment provided on particular ship.</li> </ul>

-
w
E 3
-
II.
$\mathbf{H}$
-
2.4
CODE
-
-
-
$\circ$
63
_
×
TASK
~
-
-
-

		,	,
	/ELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	7
	GENERAL	REASONING	3
	STABOM	INSTRUCTIONS	3
		%	90
The second secon	FATION	THINGS	3A
	AND ORIENT	%	5
	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A ·
	WORKER	%	45
		DATA	38

# Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own GOAL: ship, or other vessels. 11.C.6 TASK CODE:

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable. Determines ranges to and bearings of fixed aids to navigation (reference points) when anchoring, using visual navigation equipment such as stadimeter, alidade, and pelorus, and/or electronic equipment such as radar, in order to establish navigational position for "letting go" anchor.

# **TRAINING CONTENT** Functional PERFORMANCE STANDARDS Descriptive

- How to select reference points for ranges and bearings.
  How to use visual navigation instruments such as stadimeter, alidade, or pelorus.
- How to operate and take readings (ranges and bearings) from available electronic navigation systems.

### Specific:

In 100% of the cases, ranges and bearings are determined and within acceptable limits commensurate with

ship characteristics, the particular anchorage, and

prevailing environmental situation.

- Knowledge of local fixed aids to navigation.
- Knowledge of availability and reliability of electronic navigation systems at particular anchorage.
- Knowledge of particular ship's electronic navigation system(s).

#### F-55

Correctly employs electronic navigation system(s) and

accurately reads system output.

Numerical

Properly utilizes visual navigation instruments.

TASK CODE:	II.C.7								
	WORKER	VORKER FUNCTION LEVEL	L AND ORIENTATION	TATION		2000	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUA
	C u	1.4	v	28	57	2	2	6	0

LANGUAGE

7	OWIL	
7	r, mooring buoy,	
7	naging wharf, ple	
7	Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own	
40	p expedit	ssels.
7.B	1/unberth shi	GUAL: ship, or other vessels.
0	Berti	JOAL: Ship
IA		
20	-	11.0./
-		I ASK CODE:

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable.

c in	
affi	
1 tr	
vesse	
other	
detect	
to	
order	
in	
voidance system (visual and electronic) in order to detect other vessel traffic	, as applicable.
and	as
(visual	chorage,
system	', or an
avoidance	mooring buoy, or anchorage, as
collision	berth, mc
Monitors	vicinity of
TASK:	

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:  Thoroughly scans the surrounding waters both visually and electronically.  Promptly and accurately detects other vessel traffic in vicinity.  Numerical:  In 100% of the cases, all other vessel traffic in	Functional:  How to visually recognize other vessel traffic.  How to operate electronic collision avoidance system.  Specific:  Knowledge of prevailing traffic patterns alongside berth, mooring buoy, or anchorage, as applicable, including seasonal variations.
vicinity is detected.	<ul> <li>Knowledge of individual ship's specific electronic collision avoidance system.</li> </ul>

		-		
GENERAL EDUCATIONAL DEV		МАТН	7	
		GENERAL	REASONING	5
		WORKER	INSTRUCTIONS	7
			%	10
		ATION	THINGS	1A
		AND ORIENT	%	5
		VORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	IA .
	II.C.8	WORKER	%	85
	TASK CODE: II.C.8		DATA	4

LANGUAGE

VELOPMENT

TACK CODE.		20.01	Berth	unbert	ship	Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own	er, moo	ring buc	y, ow	F
ASK COOK.	11.0.0	900	ship,	or other	ir vess	ship, or other vessels.				

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable.

TASK: Assesses all other threatening vessel traffic in vicinity of berth, mooring buoy, or anchorage, as applicable, in order to determine the existence of any real or potential collision hazard.

TRAINING CONTENT	
PERFORMANCE STANDARDS	

## Descriptive:

- Accurately determines the course, speed, closest point of approach (CPA), time to closest point of approach (TCPA) of all other threatening traffic in vicinity.
- Properly ascertains the governing Rules of the Road and considers any other restraints imposed upon own ship by local navigation rules, practices, and VTS, if applicable.
- traffic which may dictate reassessment of situation. Anticipates possible actions by other threatening
- Makes assessment in timely manner commensurate with situation.

### Numerical:

In 100% of the cases, all pertinent traffic data are assessed for potential collision hazard.

## Functional:

- Understands principles of relative motion.
- How to determine course, speed, CPA, and TCPA of all other vessels.
- limitations they impose upon his ship in determining Understands applicable Rules of the Road and the potential collision hazard and possible counter action.

### Specific:

- Knowledge of prevailing traffic patterns alongside berth, mooring buoy, or anchorage, as applicable, including seasonal variations.
- Knowledge of local navigation rules, practices, and VTS, if applicable

г	-
ŀ	
ı	
1	
ı	
1	
ı	
ı	
	-
	0.
ı	63
	-
	h-d
1	-
ı	
ı	
ı	
	3.5
1	4
	2
ı	9
	TASK CODE
	×
	S
	2
	_

	VELOPMENT	LANGUAGE	3
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	77
	GENERAL	REASONING	9
	WORKER	INSTRUCTIONS	5
		%	5
	TATION	THINGS	1A
The second secon	AND ORIEN	%	5
	IORKER FUNCTION LEVEL AND ORIE!	PEOPLE	1A ·
	WORKER	%	06
The second secon		DATA	5B

	OF	
	pnoy,	
-	mooring	
-	pier,	
-	whart,	
-	damaging	
	without	
	Berth/unberth ship expeditiously without damaging whart, pier, mooring buoy, ov	s.
-	ship ex	vessel
	inber th	OAL: ship, or other vessels
-	erth/u	ship, o
	Ber	GOAL:
-		6.
		II.C
		TASK CODE:

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable.

of both onboard and external ancilliary equipment, collison hazards, and own ship's mission (purpose and goals), in order to determine course of action to maneuver into/away from berth, mooring buoy, or anchorage, as applicable, while simul-Examines and evaluates total data input concerning environmental situation, own ship's characteristics, status taneously avoiding collisions, rammings or groundings.

# PERFORMANCE STANDARDS

## Descriptive:

- Anticipates any and all possiblities which may arise, especially other ship's intentions and actions.
- Continually maintains mental alertness, i.e., is vigilant.
- Maintains sense of proportion among input data and various action options as situations changes or progresses.
- Makes decision in timely manner commensurate with situation.

### Numerical:

In 100% of the cases, all pertinent data are examined and evaluated in accordance with the particular situation before decision is reached.

## TRAINING CONTENT

Functional:

Understands interrelationships which exist among ship, ancilliary equipment (both onboard and external to the ship), and environmental factors as they relate to ship controllability in shallow water and alongside berth, at mooring buoy, and at anchorage, as applicable.

### Specific:

- Knowledge of own and other ships' hydrodynamic characteristics as they may be affected by prevailing environmental conditions at particular locale and the seasonal variations of those environmental conditions through the range of expected values.
- Knowledge of own ship's ancilliary equipment and shoreside ancilliary equipment provided in particular locale as they affect ship hydrodynamics and as they may be affected by varying local environmental conditions.
- Knowledge of particular berth and adjacent waters.

TASK CODE: II.C.10

ELOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMENT	МАТН	1
GENERAL	REASONING	7
anyaow	INSTRUCTIONS	3
	%	5
ATION	THINGS	10
AND ORIENT	%	06
IORKER FUNCTION LEVEL AND ORIE	PEOPLE	. 5
WORKER	%	5
	DATA	2

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable.
TIVE: Identify and respond to le simultaneously maneuveri

TASK

TASK: Conveys navigation orders to other bridge personnel (and tugboat operators, line handlers, buoy party, and anchor detail, as applicable) and verifies their comprehension, utilizing standard procedures and phraseology, in order to execute decisions for ship control.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
<ul> <li>Is precise and timely in conveying navigational orders.</li> </ul>	• How to phrase navigational orders.
• Ensures full understanding of order by other personnel before, during, and after its execution.	Specific:
Numerical:	• Knowledge of bridge, line handling, and anchor detail
• In 100% of the cases, orders are understood by appropriate personnel.	organización for occurribly anociónnib.

1	_
	C.11
	II.
-	CODE
-	TASK

	ELOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
	GENERAL	REASONING	1
	WORKER		
		%	50
	TATION	THINGS	18
	-	%	5
The second secon	JORKER FUNCTION LEVEL AND ORIE!	PEOPLE	1A
The second secon	WORKER	%	45
-		BATA	2

	IMU		
-	g buoy, or		-
	mooring b		AND THE PERSON OF THE PERSON O
	pier,		-
	wharf,		-
	damaging		The state of the s
	without		
-	Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own	s.	
	ship ex	vessel	
	unberth	ship, or other vessels.	
	Berth/	ship,	
		GUAL	
	711		The state of the s
	11	C00E: 11	
-	-	IASK	

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable.

## TASK

Adjusts RPM or pitch (if controllable) of ship's propeller(s) utilizing engine order telegraph, bridge throttles, or internal communications circuits, in order to change ship's speed in maneuvering ship into/out of berth.

## How to operate engine order telegraph, bridge throttles, and communication circuits. TRAINING CONTENT Functional: Specific: Expeditiously and accurately manipulates equipment to PERFORMANCE STANDARDS effect speed change. Descriptive: Numerical:

Special characteristics and location of own ship's

equipment.

In 100% of the cases, all adjustments are made exactly as ordered (or desired).

#### F-60

II.C.12 TASK CODE:

/ELOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
GENERAL	REASONING	1
WORKER	INSTRUCTIONS	2
	%	50
IENTATION	THINGS	10
AND ORIENT	%	20
KER FUNCTION LEVEL AND ORI	PEOPLE	1A
WORKER	%	45
	DATA	2

			Berth,	/unberth	ship	Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own	7 without	damaging	wharf,	pier,	mooring	g page, ow	OWD	
TASK CODE:	11.0.12	GOAL	ship.	ship, or other vessels	r vess	sels.								

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable.

"ASK: Turns ship's helm and reads compasses (gyro and magnetic) and rate of turn indicators (if provided) in order to change or maintain heading in maneuvering ship into/out of berth. TASK:

TRAINING CONTENT	Functional:
PERFORMANCE STANDARDS	Descriptive:

# Routinely and accurately manipulates helm to change Descriptive:

## Continuously monitors compass, rudder angle, and rate or maintain course. of turn indicator.

## Numerical:

- In 100% of the cases, all readings of instrumentation are within acceptable limits in accordance with particular situation.
- In 100% of the cases, all helm adjustments are made exactly as ordered (or desired).

## How to detect drift off desired heading. turn indicator.

Specific:

How to read a rudder angle indicator and a rate of

How to operate a helm.

How to read a compass.

Knowledge of specific ship's handling characteristics, i.e., rudder rate, lateral stability, rate of turn,

TASK CODE: 11.C.13

FLOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMENT	МАТН	3
GENERAL	REASONING	7
a day	INSTRUCTIONS	7
	%	45
ATION	THINGS	2C
AND ORIENT	%	10
WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	2
WORKER	%	45
	DATA	3B
-		

Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own ship, or other vessels. GOAL: II.C.13 TASK CODE:

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable.

Utilizes such external assistance as mooring lines, anchor(s) and anchor chain(s), and tugboat(s), as applicable, in order to provide ancilliary control in changing ship's heading and/or speed while approaching or clearing berth, mooring buoy, or anchorage. TASK

# PERFORMANCE STANDARDS

## Descriptive:

- Efficiently and correctly has ground tackle or mooring lines deployed to assist in turning ship's head and/or control its speed.
  - Properly has tugboat(s) apply necessary force vectors to assist in turning ship's head and/or control its speed.

### Numerical:

- In 100% of the cases, tugboat force vectors are applied such that ship's head is turned, and/or ship's speed is regulated according to need and is commensurate with particular situation.
- In 100% of the cases, ground tackle or mooring lines are deployed such that ship's head is turned, and/or ship's speed is regulated according to need and is commensurate with particular situation.

## TRAINING CONTENT

Functional

- Understanding of uses and limitations of all ground tackle, including shackles, swivels, chain stoppers, capstans, windlasses, etc.
- Understanding of uses and limitations of various types of mooring lines and mooring winches.
  Understanding of uses and capabilities of tugboats as
  - they relate to assisting in overall ship controllability.

    Ity.

    Knowledge of cause and effect between external ancility.
- Knowledge of cause and effect between external ancilliary controls and ship response as they may be affected by environmental conditions such as wind, current, and shallow water.

### Specific:

- Knowledge of particular tugboats and individual ship's mooring and anchoring systems and their interrelationships to ship controllability over the range of expected values for environmental variations at particular locale.
- Knowledge of mooring/anchoring facilities at particular locale including bottom characteristics.

TASK CODE:	II.C.14	14							
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIEN	TATION		an Management	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUA
38	50	2	25	10	25	2	2	1	2

LANGUAGE

The second secon	y, own	, and	cable.
The second secon	mooring buo	s, rammings	e, as appli
	rf, pier, n	collisions	r anchorage
	amaging wha	ler to avoid	ing buoy, o
	Berth/unberth ship expeditionsly without damaging wharf, pier, mooring buoy, own ship, or other vessels.	to potentially hazardous conditions in order to avoid collisions, rammings, and	maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable.
	expeditions.	rdous condi	o/away from
	AL:Berth/unberth ship expensions of other vessels.	tially haza	ng ship int
	30AL:Berth/un		y maneuveri
	09	dentify and respond	groundings, while simultaneously
	II.C.14	Identify	while sim
	TASK CODE:	OBJECTIVE:	groundings,

TASK: Maintains with tugboat operators, line handlers, buoy party and/or anchor detail, using onboard communications equipment, when necessary, in order to receive information from, and to monitor status of, assisting tugboats, mooring lines, and anchor(s).

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-63	Descriptive:	Functional:
	<ul> <li>Properly operates all communications equipment.</li> <li>Correctly interprets all feedback data.</li> </ul>	• How to operate onboard communications equipment such as radiotelephone, loud hailers, intercom, telephone, etc.
	Numerical:  In 100% of the cases, all pertinent feedback data are	<ul> <li>How to interpret feedback communications for status of equipment.</li> </ul>
	monitored and correctly interpreted.	Specific:
		<ul> <li>Knowledge of own ship's communications equipment.</li> </ul>
		• Knowledge of communications to be employed for various situations at particular locals.
		,

II.C.15 TASK CODE:

-		-
/ELOPMENT	LANGUAGE	1
GENERAL EDUCATIONAL DEVELOPMEN	MATH	Н
GENERAL	REASONING	1
WORKED	INSTRUCTIONS	1
	%	80
IENTATION	THINGS	1
AND ORIENT	%	5
FUNCTION LEVEL AND ORI	PEOPLE	1
WORKER	%	15
	DATA	1

Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own GOAL: ship, or other vessels. II.C.15 TASK CODE:

ground-Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and ings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable. OBJECTIVE:

TASK: Sounds ship's whistle and displays required identification/signals/flags in accordance with Rules the Road, in order to approach/leave berth safely and according to proper procedure. TASK

	Functio	• How
		appropriate
DARDS		displays
STAN		and
PERFORMANCE STANDARDS		whistle
PER		operates
	Descriptive:	• Correctly operates whistle and displays appropriate
	F-64	

- signal flags.
- Operation of whistle and displaying of flags is timely to arrival/departure,

### Numerical:

- In 100% of the cases, all appropriate whistle signals are sounded.
- In 100% of the cases, all other appropriate day signals are displayed.

## onal:

TRAINING CONTENT

- w to operate ship whistle.
- How to identify and use signal flags.
- Knowledge of Rules of the Road pertaining to whistle and flag signals.

### Specific:

Knowledge of location of whistle controls (automatic and manual) and other day signals on particular ship, Objective II.D: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency arises

_	
ĺ	
ı	
ı	
-	
ı	
1	
1	-
1	0
1	-
	-
1	
l	w
	9
	00
1	J
l	S
l.	A
1	-

	FLOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMEN	MATH	
	GENERAL	REASONING	3
	01700	INSTRUCTIONS	n
		%	25
	FATION	THINGS	1A
	AND ORIEN	%	5
	WORKER FUNCTION LEVEL AND ORIENTATIO	PEOPLE	1A
*	WORKER	%	70
		DATA	2

ASK CODE: II.D.1 GOAL: Ship, or other vessels.	r, mooring buoy, own		1
--	----------------------	--	---

while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings,

Visually scans the waters surrounding the berth area, mooring buoy, or anchorage, as applicable, utilizing the naked eye and banoculars in order to detect and identify navigational hazards. TASK

## TRAINING CONTENT How to use binoculars. Functional: Thoroughly scans the surrounding waters. PERFORMANCE STANDARDS Descriptive:

• How to visually recognize hazards such as floating debris, shallow water, etc.

Accurately and timely identifies various navigational

hazards.

Numerical:

In 100% of the cases, all navigational hazards are detected and identified.

### Specific:

• Knowledge of special hazards to navigation known in particular locale.

#### F-66

1	
I	
1	
١	
1	. 7
١	0.
١	II
-	
1	ü
1	00
١	X
	TAS

ELOPMENT	LANGUAGE	1
GENERAL EDUCATIONAL DEVELOPMEN	МАТН	3
GENERAL	REASONING	3
a share	INSTRUCTIONS	3
	%	07
NTATION	THINGS	3A
AND ORIENT	%	5
VORKER FUNCTION LEVEL AND ORIE!	PEOPLE	18
WORKER	%	55

g buoy, own	er, mooring	ing wharf, pi	without damag	Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own ship, or other vessels.	At: ship, or other vessels.	Berth JAL: ship,	II.D.2 60	TASK CODE:
-------------	-------------	---------------	---------------	--	-----------------------------	---------------------	-----------	------------

Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, OBJECTIVE: Identify and respond to potentiarly income berth, mooring buoy, or anchorage, as applicable, when some emergency while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency arises.

Operates the radar and fathometer in order to detect and identify navigational hazards. TASK

# TRAINING CONTENT Functional: PERFORMANCE STANDARDS Descriptive:

# How to manipulate radar unit, i.e., vary range scales, circles and lines, true or relative motion mode, etc. sector search selector, intensity, range and bearing Selects the optimum combination of range scales, sector search, intensity, etc., for the most accurate and

How to manipulate fathometer unit, i.e., vary depth How to detect and identify navigational hazards on scale, intensity, etc.

Accurately detects various navigational hazards on

radar.

prompt detection of navigational hazards.

Accurately detects any navigational hazards (i.e.,

proximity of bottom) on fathometer.

radar and fathometer.

### Specific:

In 100% of the cases, all navigational hazards are

detected.

Numerical:

- Knowledge of special hazards known in particular locale which present radar targets.
- Knowledge of individual ship's particular radar unit.
- Knowledge of individual ship's particular fathometer

#### F-67

TASK CODE:	II.D.3								
	WORKER FUI	NCTION LEVE	AND ORIENTATION	TATION		and war	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUA
2	75	IA	22	1A	20	2	2	3	3

TASK CODE:	II.D.3	GOAL: Shi	Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own ship, or other vessels.
OBJECTIVE: while sim	Identify and respond to potultaneously maneuvering ship	d to	potentially hazardous conditions in order to avoid collisions, rammings, and groundings, hip into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency

ASK: Monitors wind direction and speed indicators and obtains/reviews information on tides and currents, in order to ascertain wind, current, and tide conditions. arises. TASK:

1 1	PERFORMANCE STANDARDS	TRAINING CONTENT
	Descriptive:	Functional:
	• Correctly reads all instruments.	• How to read wind speed and direction indicators.
	<ul> <li>Routinely ascertains pre-calculated tide and current data in berth vicinity.</li> </ul>	<ul> <li>Where to obtain tide and current data.</li> </ul>
	Numerical:	Specific:
	• In 100% of the cases, readings and observations are within acceptable limits in accordance with particular	<ul> <li>Knowledge of prevailing environmental conditions in locale and seasonal variations throughout the range of expected values.</li> </ul>
	situation.	

1	
1	
1	
1	
1	
1	7
	_
1	
	$\mathbf{H}$
	$\vdash$
	. 10
	DOE
	9
	0.5
	C
	-
	XX
	9

/ELOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMENT	МАТН	2
GENERAL	REASONING	1
WORKER	INSTRUCTIONS	2
	%	10
ATION	THINGS	1A
	%	5
WORKER FUNCTION LEVEL AND ORIEN	PEOPLE	IA ·
WORKER	%	85
	DATA	1

The second secon	The same of the sa		The second second		The second second second					No. of Contract of				
2000			Berth/	unberth	ship	Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own	without	damaging v	wharf,	pier,	mooring b	noy,	IM	
ASK CODE:	11.D.4	LONG	ship.	ship, or other vessels.	vess	els.								

Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, OBJECTIVE: Interestry and respond to produce the simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency arises. Reads dials of instruments such as compass, rudder angle indicator, throttle position indicator, speed indicator, and RPM indicator; visually scans steering and propulsion system status indicators; looks and listens for steering machinery and propulsion system audio and visual failure alarms, in order to ascertain heading, speed, rudder angle, and propeller speed, and to monitor operating conditions of steering and propulsion systems. TASK

## PERFORMANCE STANDARDS

## Descriptive:

Correctly reads and surveys all instrumentation.

Numerical:

# In 100% of the cases, readings and observations are within acceptable limits in accordance with particular situation.

#### Functional:

TRAINING CONTENT

- How to read compass, rudder angle indicator, throttle position indicator, speed indicator, and RPM indicator.
- How to monitor steering and propulsion system status indicators.
- How to recognize audio and visual failure alarms for steering and propulsion system.

#### Specific:

Knowledge of location, arrangement, and characteristics of particular indicators, displays, and alarms on specific ship.

	0
П	
	~
	×
	×
	×
	X
	SK
	ASK

_		
ELOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMENT	MATH	2
GENERAL	REASONING	2
WORKER	INSTRUCTIONS	3
	%	10
ITATION	THINGS	2B
AND ORIENT	%	5
WORKER FUNCTION LEVEL AND ORIEN	PEOPLE	1A .
WORKER	%	85
	DATA	2

	loy, own	
	, mooring buo	
	, pler	
	3 whart	
	t damaging	
	iously without	
	litiously	
	hip expec	vessels.
1	/unberth shi	ship, or other vessels
	serth/u	ship, o
		GOAL:
	ш	2.0
	7 7 7	11.D.
		TASK CODE:

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency arises.

TASK: Monitors voice radio (bridge-to-bridge, ship-to-shore, and vessel traffic system (VTS) network, as applicable) and internal communication systems in order to maintain radio watch during berthing/unberthing maneuvers. TASK

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
<ul> <li>Is attentive to all voice radio traffic.</li> </ul>	• How to operate various radio frequency (rf) equip-
<ul> <li>Efficiently monitors all communications applicable to own ship and situation.</li> </ul>	<ul> <li>Knowledge of voice radio communication procedures.</li> </ul>
Numerical:	Specific:
• In 100% of the cases, all pertinent communications are detected, understood, and acknowledged.	<ul> <li>Knowledge of availability of various rf networks in particular locale.</li> </ul>
	<ul> <li>Knowledge of specific rf equipment provided on particular ship.</li> </ul>

TASK CODE: II.D.5

WORKER GENERAL EDUCATIONAL DEVELOPMENT INSTRUCTIONS REASONING MATH LANGUAGE  3 3 4 4 2			
REASO 3	ELOPMENT	2	The same of the sa
REASO 3	EDUCATIONAL DEV	7	The second secon
WORKER INSTRUCTIONS	GENERAL	3	The second secon
	a sa com	3	The second secon
% 02		20	-
TATION THINGS 3A	ATION	3A	
<b>&gt;</b> 1	-	5	
WORKER FUNCTION LEVEL AND ORIER           %         PEOPLE         %           45         1A         5	FUNCTION LEVEL	1A	
<b>WORKER</b> %	WORKER	45	
DATA 3B		38	

GOAL: Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own TASK CODE:

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency arises.

RASK: Determines ranges to and bearings of fixed aids to navigation (reference points) when anchoring, using visual navigation equipment such as stadimeter, alidade, and pelorus, and/or electronic equipment such as radar, in order to establish navigational position for "letting go" anchor. TASK:

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
<ul> <li>Properly utilizes visual navigation instruments.</li> </ul>	• How to select reference points for ranges and bearings.
<ul> <li>Correctly employs electronic navigation system(s) and accurately reads system output.</li> </ul>	• How to use visual navigation instruments such as stadimeter, alidade, or pelorus.
Numerical:	<ul> <li>How to operate and take readings (ranges and bearings) from available electronic navioation evereme</li> </ul>
In 100% of the cases, ranges and bearings are determined and within acceptable limits commensurate with	Specific:
prevailing environmental situation.	<ul> <li>Knowledge of local fixed aids to navigation.</li> </ul>
	• Knowledge of availability and reliability of electronic navigation systems at particular anchorage.
	<ul> <li>Knowledge of particular ship's electronic navigation system(s).</li> </ul>

deleter to the same of	-	-
VELOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMENT	МАТН	2
GENERAL	REASONING	2
200	INSTRUCTIONS	2
	%	45
ENTATION	THINGS	2B
AND ORIENT	%	5
JORKER FUNCTION LEVEL AND ORIE	PEOPLE	1A
WORKER	%	50
	DATA	1

Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own GOAL: TASK CODE:

OBJECTIVE: Identity and respond to present the same persons as applicable, when some emergency while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings arises.

Monitors collision avoidance system (visual and electronic) in order to detect other vessel traffic in vicinity of berth, mooring buoy, or anchorage, as applicable. TASK:

## TRAINING CONTENT PERFORMANCE STANDARDS

### Descriptive:

## Thoroughly scans the surrounding waters both visually and electronically.

## Promptly and accurately detects other vessel traffic in vicinity.

#### Numerical:

## In 100% of the cases, all other traffic in vicinity is detected.

1

#### Functional:

How to visually recognize other vessel traffic.

How to operate electronic collision avoidance system.

- Knowledge of prevailing traffic patterns alongside berth, mooring buoy, or anchorage, as applicable, including seasonal variations.
- Knowledge of individual ship's specific electronic collision avoidance system.

i	
ı	
ı	
ı	000
1	-
ı	
	-
•	-
	II.D.
	-
	$\mathbf{H}$
	ш
	_
	_
	_
	0
	000
	×
	ä
	ď
	TASK

_	_	
/ELOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMENT	МАТН	7
GENERAL	REASONING	5
WOOKED	INSTRUCTIONS	4
	%	10
ITATION	THINGS	1A
AND ORIENT	%	5
WORKER FUNCTION LEVEL AND ORIEN	PEOPLE	1A .
WORKER	%	85
	DATA	7

Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own ship, or other vessels. GOAL TASK CODE:

OBJECTIVE: THE LIBERALY MAILE SHALL SHIP INTO/AWAY from berth, mooring buoy, or anchorage, as applicable, when some emergency while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, arises.

Assesses all other threatening vessel traffic in vicinity of berth, mooring buoy, or anchorage, as applicable, in order to determine the existence of any real or potential collision hazard. TASK

PERFORMANCE STANDARDS

### Descriptive:

- Accurately determines the course, speed, closest point of approach (CPA), time to closest point of approach (TCPA) of all other threatening traffic in vicinity.
- Properly ascertains the governing Rules of the Road and considers any other restraints imposed upon own ship by local navigation rules, practices, and VTS, is applicable.
- Anticipates possible actions by other threatening traffic which may dictate reassessment of situation.
- Makes assessment in timely manner commensurate with situation.

#### Numerical:

In 100% of the cases, all pertinent traffic data are assessed for potential collision hazard.

### TRAINING CONTENT

Functional:

Understands principles of relative motion.

How to determine course, speed, CPA, and TCPA of all

other vessels.

• Understands applicable Rules of the Road and the limitations they impose upon his ship in determining potential collision hazard and possible counter action.

- Knowledge of prevailing traffic patterns alongside berth, mooring buoy, or anchorage, as applicable, including seasonal variations.
- Knowledge of local navigation rules, practices, and VTS, if applicable.

1	
1	
£	
ŧ.	
1	
ı	
ı	5
	0,
1	
	-
	1
ŧ	1
	had
	1000
1	
1	
1	144
	-
	-
	-
	C
	-
ŧ -	~
ı	-
1	S
	-
1	-

previous	-	
VELOPMENT	LANGUAGE	3
NERAL EDUCATIONAL DEVELOPMENT	MATH	7
GENERAL	REASONING	9
00000	INSTRUCTIONS	5
	%	5
TATION	THINGS	1.4
AND ORIEN	%	5
VORKER FUNCTION LEVEL AND ORIEN	PEOPLE	1A
WORKER	%	06
	DATA	5B

Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own ship, or other vessels. GOAL II.D.9

TASK CODE:

OBJECTIVE: Identify and respond to potentially magained to mooring buoy, or anchorage, as applicable, when some emergency while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, arises.

both onboard and external ancilliary equipment, collision hazards, and own ship's mission (purpose and goals), in order Examines and evaluates total data input concerning environmental situation, own ship's characteristics, status of to determine course of action to maneuver into/away from berth, mooring buoy, or anchorage, as applicable, while simulavoiding collisions, rammings or groundings when a non-ship-control-related emergency occurs. taneously TASK

### PERFORMANCE STANDARDS

#### Descriptive:

- Anticipates any and all possibilities which may arise especially other ships' intentions and actions.
- Continually maintains mental alertness, i.e., is vigilant.
- Maintains sense of proportion among input data and various action options as situation changes or progresses.
- Makes decision in timely manner commensurate with situation.
- Acts effectively and with aplomb under pressure.

#### Numerical:

In 100% of the cases, all pertinent data are examined and evaluated in accordance with the particular situation before decision is reached.

Functional:

TRAINING CONTENT

Understands interrelationships which exist among ship, ancilliary equipment (both onboard and external to the ship), and environmental factors as they relate to ship controllability in shallow water and alongside berth, at mooring buoy, and at anchorage, as applicable.

- Knowledge of own and other ships' hydrodynamic characteristics as they may be affected by prevailing environmental conditions at the particular locale and the seasonal variations of those environmental conditions through the range of expected values.
- Knowledge of own ship's ancilliary equipment and shoreside ancilliary equipment provided in particular locale as they affect ship hydrodyamics and as they may be affected by varying environmental conditions and other ship traffic.
- Knowledge of particular ship's emergency bill organization and emergency procedures.

_	
	10
	II.D.
	Ξ
	CODE
	ASK COD
L	_

	/ELOPMENT	LANGUAGE	3
	GENERAL EDUCATIONAL DEVELOPMEN	MATH	7
	GENER/	REASONING	9
	WORKER	INSTRUCTIONS	5
The second secon		%	5
The second secon	ENTATION	THINGS	1A
	AND ORIENT	%	5
,	NORKER FUNCTION LEVEL AND ORIE	PEOPLE	14
07.0	WORKER	%	06
The state of the s		DATA	5B

					The same of the same of the same of	The second secon	-		The second secon		The second second second
TARK CODE	TT. D. 10		Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own	ip expeditious	ly without	damaging	wharf,	pier,	mooring	buoy,	OWD
HASK CODE:	3	GUAL	shin or other vessels	stasse							

Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, OBJECTIVE: Identify and respond to product to product the simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency arises.

to determine course of action to maneuver into/away from berth, mooring buoy, or anchorage, as applicable, while simultaneously avoiding collisions, ramming or groundings, when a ship-control-related emergency (such as loss of propulsive JASK. Definition on the property of the proper Examines and evaluates totat data input concerning environmental situation, own ship's characteristics, status of power of steering) occurs.

### PERFORMANCE STANDARDS

Functional:

Understands interrelationships which exist among ship,

TRAINING CONTENT

### Descriptive:

- Anticipates any and all possibilities which may arise, especially other ships' intentions and actions.
  - Continually maintains mental alertness, i.e., is vigilant.
- Maintains sense of proportion among input data and various action options as situation changes or
- Makes decision in timely manner commensurate with situation.

progresses.

Acts effectively and with aplomb under pressure.

#### Numerical:

- In 100% of the cases, all pertinent data are examined and evaluated in accordance with the particular situation before decision is reached.
- ancilliary equipment (both onboard and external to the ship), and environmental factors as they relate to ship controllability in shallow water alongside berth, as mooring buoy, and at anchorage, as applicable.

  Knowledge of procedures for various ship control emergencies.

  Specific:

  Knowledge of own and other ships' hydrodynamic characteristics as they may be affected by prevailing environmental conditions at the particular locale and the seasonal variations of those environmental conditions through the range of expected values.
- and other ship traffic.

  Knowledge of particular ship's emergency bill organization and emergency procedures.

shoreside ancilliary equipment provided in particular

Knowledge of own ship's ancilliary equipment and

locale as they affect ship hydrodynamics and as they may be affected by varying environmental conditions

	GENERAL EDUCATIONAL DEVELOPMENT	MATH LANGUAGE	1 2
	GENERAL	REASONING	7
	WORKER	INSTRUCTIONS	3
		%	5
	ATION	THINGS	10
	AND ORIENT	%	06
	JORKER FUNCTION LEVEL AND ORIENTATIO	PEOPLE	5
II.D.11	WORKER	%	5
TASK CODE:		DATA	2

200	II.D.11		Berth/	unbert.	dids c	exped	itiously	, withou	t dama	aging w	harf,	pier,	Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own	pnoy,	OWn	-
HASK COUR:		UME	ship,	GUAL: ship, or other vessels.	er ves	sels.										
ORIECTIVE.	Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings,	to p	otenti	ially h	azardo	us con	ditions	in orde	r to a	biove	ollisi	ons, r	ammings,	, and	grounding	6
while sim	e simultaneously maneuvering ship	ng sh	ip int	to/away	from	berth,	mooring	g buoy,	or and	chorage	, as a	pplica	ible, whe	en som	p into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency	7
arises.																

ASK: Conveys navigation orders to other bridge personnel (and tugboat operators, line handlers, buoy party, and anchor detail, as applicable) and verifies their comprehension, utilizing standard procedures and phraseology, in order to execute decisions for ship control. TASK:

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
• Is precise and timely in conveying navigational orders.	• How to phrase navigational orders.
• Ensures full understanding of order by other personnel before, during, and after its execution.	Specific:
Numerical:	<ul> <li>Knowledge of bridge, line handling, and anchor detail organization for berthing/unberthing.</li> </ul>
<ul> <li>In 100% of the cases, orders are understood by appropriate personnel.</li> </ul>	

TASK CODE:	II.D.12 WORKER	FUN	AND ORIENT	TATION		WORKER	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
2	45	1A .	2	118	20 ,	-	1	1	1

Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own ship, or other vessels.	OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency
II.D.12 GOAL: Berth/un ship, or	entify and respond to potential aneously maneuvering ship into/
TASK CODE:	OBJECTIVE: I

TASK: Adjusts RPM or pitch (if controllable) of ship's propeller(s) utilizing engine order telegraph, bridge throttles, or internal communications circuits, in order to change ship's speed in maneuvering ship into/out of berth. TASK:

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
<ul> <li>Expeditiously and accurately manipulates equipment to effect speed change.</li> </ul>	• How to operate engine order telegraph, bridge throttles, and communication circuits.
Numerical:	Specific:
• In 100% of the cases, all adjustments are made exactly as ordered (or desired).	• Special characteristics and location of own ship's equiment.

HON COUR.	II.D.13								
	WORKER	VORKER FUNCTION LEVEL	L AND ORIENTATION	ATION		WOBKED	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	FLOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUA
2	45	1A	20	10	50	2	-		2

-	-
GOAL: Ship, or other vessels.	entify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, anneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency
0.9	nd respond
II.D.13	VE. Identify and simultaneously ma
TASK CODE: I	OBJECTIVE While sin

ASK: Turns ship's helm and reads compasses (gyro and magnetic) and rate of turn indicators (if provided) in order to change or maintain heading in maneuvering ship into/out of berth. TASK:

	PERFORMANCE STANDARDS	TRAINING CONTENT	
D	Descriptive:	Functional:	
0	Routinely and accurately manipulates helm to change or maintain course.	• How to operate a helm.	
0	Continuously monitors compass, rudder angle, and rate of turn indicator.	<ul> <li>How to read a rudder angle indicator and a rate of turn indicator.</li> </ul>	
Z	Numerical:	• How to detect drift off desired heading.	
	In 100% of the cases, all readings of instrumentation are within acceptable limits in accordance with particular situation.	Specific:	
	In 100% of the cases, all helm adjustments are made exactly as ordered (or desired).	<ul> <li>Knowledge of specific ship's handling characteristics, i.e., rudder rate, lateral stability, rate of turn, etc.</li> </ul>	

TASK CODE: II.D.14

	_	_	1
	/ELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	3
	GENERAL	REASONING	7
	979075	INSTRUCTIONS	4
The state of the s		%	45
The second secon	TATION	THINGS	2C
		%	10
	YORKER FUNCTION LEVEL AND ORIEN	PEOPLE	2
-	WORKER	%	45
-		DATA	38

Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own GOAL ship, or other vessels. II.D.14 TASK CODE:

OBJECTIVE: Interests and response the form of the mooring busy, or anchorage, as applicable, when some emergency while simultaneously maneuvering ship into/away from berth, mooring busy, or anchorage, as applicable, when some emergency Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, arises.

Utilizes such external assistance as mooring lines, anchor(s) and anchor chain(s), and tugboat(s), as applicable, in order to provide ancilliary control in changing ship's heading and/or speed while approaching or clearing berth, mooring buoy, or anchorage.

_	_	_	
C	0		
C	2		
C	5		
5	3		
5	2		
:	5		
ì	4		
i	0		
L	u		
C	٥	•	
	2		
5	3		
E	Σ		
C	c		
C	₽		
DUCA CITA NO POPULA NO A DIO A	:		
-			
č	ζ		
ſ	Ī		

### Descriptive:

- Efficiently and correctly has ground tackle or mooring lines deployed to assist in turning ship's head and/or control its speed.
  - Properly has tugboat(s) apply necessary force vectors to assist in turning ship's head and/or control its speed.

#### Numerical:

- In 100% of the cases, tugboat force vectors are applied such that ship's head is turned, and/or ship's speed is regulated according to need and is commensurate with particular situation.
  - In 100% of the cases, ground tackle or mooring lines are deployed such that ship's head is turned, and/or ship's speed is regulated according to need and is commensurate with particular situation.

### TRAINING CONTENT

Functional

- Understanding of uses and limitations of all ground tackle, including shackles, swivels, chain stoppers, capstans, windlasses, etc.
- Understanding of uses and limitations of various types of mooring lines and mooring winches.
  Understanding of uses and capabilities of tugboats as they relate to assisting in overall ship controllabil-
- Knowledge of cause and effect between external ancilliary controls and ship response as they may be affected by environmental conditions such as wind, current, and shallow water.

- Knowledge of particular tugboats and individual ship's mooring and anchoring systems and their interrelationships to ship controllability over the range of expected values for environmental variations at particular locale.
  - Knowledge of mooring/anchoring facilities at particular locale including bottom characteristics.

ı.	
ŀ	
1	
1	
ŧ.	
f .	
1	
ŧ.	
8	
8	
1	
1	
1	
8	
3	
í:	
t t	
₽.	
ŧ.	
1	

ELOPMENT	LANGUAGE	7
GENERAL EDUCATIONAL DEVELOPMENT	MATH	r-i
GENERAL	REASONING	2
01/10/20	INSTRUCTIONS	2
	%	25
TATION	THINGS	10
25	%	25
ER FUNCTION LEVEL AND ORI	PEOPLE	2
WORKER	*	50
	DATA	3.8

SK CODE: II.D.15 GOAL: Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own	ASK CODE: II.D.15
---	-------------------

OBLECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency arises.

Maintains communications with tugboat operators, line handlers, buoy party and/or anchor detail, using onboard communications equipment, when necessary, in order to receive information from, and to monitor status of, assisting tugboats, mooring lines, and anchor(s). TASK

#### Knowledge of communications to be employed for various How to interpret feedback communications for status Knowledge of own ship's communications equipment. How to operate onboard communications equipment such as radiotelephone, loud hailers, intercom, situations at particular locals. TRAINING CONTENT telephone, etc. of equipment. Functional: Specific: . In 100% of the cases, all pertinent feedback data are Properly operates all communications equipment. Correctly interprets all feedback data. monitored and correctly interpreted. PERFORMANCE STANDARDS Descriptive: Numerical:

II.D.16
TASK CODE:

	/ELOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	П
	GENERAL	REASONING	П
The second secon	ODAGOM	INSTRUCTIONS	1
The second secon		%	80
The state of the s	ITATION	THINGS	1
The second secon	AND ORIEN	%	5
The second secon	WORKER FUNCTION LEVEL AND ORIEI	PEOPLE	1
-	WORKER	%	15
The second secon		DATA	1

GOAL: Berth/unberth ship expeditiously without damaging wharf, pier, mooring buoy, own ship, or other vessels. II.D.16 TASK CODE:

OBJECTIVE: Identify and respond to potentially magazines commissions. The simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency while simultaneously maneuvering ship into/away from berth, mooring buoy, or anchorage, as applicable, when some emergency Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, arises.

#### TASK

Sounds ship's whistle and displays required identification/signals/flags in accordance with Rules of the Road, in order to approach/leave berth safely and according to proper procedure.

### PERFORMANCE STANDARDS

#### Functional:

TRAINING CONTENT

- How to operate ship whistle.
- How to identify and use signal flags.

Operation of whistle and displaying of flags is timely

to arrival/departure.

signal flags.

In 100% of the cases, all other appropriate day

signals are displayed.

are sounded.

Numerical:

Correctly operates whistle and displays appropriate

Knowledge of Rules of the Road pertaining to whistle and flag signals.

#### Specific:

and manual) and other day signals on particular ship. Knowledge of location of whistle controls (automatic In 100% of the cases, all appropriate whistle signals

#### Descriptive: F-81

Goal III: Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously

Objective III.A: Maintain designated track and speed within restricted waterway, modifying as required by conditions in order to avoid rammings and groundings

TASK CODE:	III.A.	.1							
	WORKER	VORKER FUNCTION LEVEL AND ORIENTATION	AND ORIENT	TATION		200	GENERA	GENERAL EDUCATIONAL DEVE	***
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	
2	75	1A	5	1A	20	3	3	9	1

m

ELOPMENT

TASK CODE:	III.A.1	60AL: Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditionsly.
OBJECTIVE:	Maintain designated trac order to avoid rammings	ated track and speed within restricted waterway, modifying as required by conditions, in rammings and groundings.

TASK: Studies intended track, using appropriate navigational charts and publications, in order to acquaint himself with local conditions of waterway limitations, prevailing environmental situation, aids to navigation, and potential naviagational hazards.

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-8	Descriptive:	Functional:
34	• Charts and publications are adequately studied.  Is thoroughly familiar with intended track, prevail-	<ul> <li>How to read and interpret navigational charts and publications.</li> </ul>
	ing environmental situation, local aids to navigation, potential navigational hazards, and local navigation	<ul> <li>How to relate charts to actual physical environment.</li> </ul>
	rutes and practices.	• Knowledge of particular waterway, its aids to naviga-
	Mulletreat	tion and potential navigational hazards, local naviga-
	<ul> <li>In 100% of the cases, all relevant data are ascertained as dictated by the particular situation.</li> </ul>	tion rules and practices, and prevailing environmental conditions for that particular locale.

	EVELOPMENT	LANGUAG	1
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
	GENERA	REASONING	3
	03 X 00 W	INSTRUCTIONS	3
		%	25
	TATION	THINGS	18
	AND ORIENTATION	%	5
.2	VORKER FUNCTION LEVEL	PEOPLE	1.4
III.A.2	WORKER	%	70
TASK CODE:		DATA	2

TASK CODE:	III.A.2	GOAL: d	Vavigate through (maneuver in) restric destination safely and expeditiously.	throu	gh (ma fely a	neuver nd expe	in) re	Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.	d water	s as 1	require	ul pa	order	to re	асп	
OBJECTIVE:	Maintain designated track and speed within restricted waterway, modifying as required by conditions, in order to avoid rammines and exemplace	ated tra	ck and speed wi	speed v	rithin	restri	cted w	aterway,	modify	ring a	s requ	fred b	y con	dition	ıs, İn	

TASK: Visually scans the waters surrounding the intended track (course) utilizing the naked eye and binoculars in order to detect and identify navigational hazards and alds to navigation.

MORKER FUNCTION LEVEL AND ORIENTATIONWORKERGENERAL EDUCATIONAL DEVELOPMENTDATA%THINGS%INSTRUCTIONSREASONINGMATHLANGU2551A53A4O3331	TASK CODE:	III.A.	4.3							
%         PEOPLE         %         THINGS         %         INSTRUCTIONS         REASONING         MATH           55         1A         5         3A         40         3         3         3         3		WORKER	FUNCTION LEVEL	AND ORIENT	TATION		000	GENERA	L EDUCATIONAL DE	VELOPMENT
2 55 1A 5 3A 40 3 3 3 1	DATA	*	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUA
	2	55	1A	5	3A	07	8	3	3	1

TASK CODE: III.A.3 GOAL: Navigate through (maneuver in) restricted waters as required in order to reach conditions and speed within restricted waterway, modifying as required by conditions, in order to avoid rammings and groundings.  TASK: Operates the radar and fathometer in order to detect and identify navigational hazards and aids to navigation.	
--	--

TRAINING CONTENT	
PERFORMANCE STANDARDS	

#### curate and prompt detection of navigational hazards Selects the optimum combination of range scales, sector search, intensity, etc., for the most acand aids to navigation.

- Accurately detects various aids to navigation and navigational hazards on radar.
- Accurately detects any navigational hazards (1.e., proximity of bottom) on fathometer.

#### Numerical:

In 100% of the cases, all necessary navigational aids and all navigational hazards are detected.

#### Functional:

- How to manipulate radar unit, i.e., vary range scales, sector search selector, intensity, range and bearing circles and lines, true or relative motion mode, etc. How to manipulate fathometer unit, i.e., vary depth
  - How to detect navigational hazards and aids to naviscale, intensity, etc.
    - gation on radar and fathometer.
- How to identify navigational hazards and aids to navigation on radar and fathometer.

#### Specific:

- Knowledge of navigational aids along track or manmade and geophysical characteristics which present good radar tragets.
- Knowledge of special hazards known in particular locale which present radar targets.
- Knowledge of individual ship's particular radar unit.
- Knowledge of individual ship's particular fathometer unit,

Descriptive:

A
TIT
200
.::
ü
ü
ü
E:
DE:
DE:
DE:
30E:
00E:
:00E:
:00E:
CODE
K CODE:
K CODE:
SK CODE:
SK CODE:
SK CODE:
ASK CODE:
ASK CODE:
ASK CODE:
ASK CODE:
TASK CODE:

	VELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMEN	МАТН	7
	GENERAL	REASONING	3
	andana	INSTRUCTIONS	3
A STATE OF THE PARTY OF THE PAR		%	35
	ENTATION	THINGS	2A
The second secon	AND ORIENT	%	5
	JORKER FUNCTION LEVEL AND ORIE	PEOPLE	1A
	WORKER	%	09
		DATA	3A

TASK CODE:	III.A.4	GOAL:	Navig	gate	throu	gh (ma fely a	Navigate through (maneuver in) restricted destination safely and expeditiously.	n) re itiou	stricted	Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.	rec	luired in	orde	er to r	each	
OBJECTIVE:	Maintain designated	ted to	rack a	is pu	beed v	rithin	restric	ted w	aterway.	track and speed within restricted waterway, modifying as required by conditions, in	as	required	by o	ondition	ons, 1	l q

Maintain designated track and speed within restricted waterway, modifying as required by conditions, in order to avoid rammings and groundings.

TASK: Visually determines ranges to and bearings of fixed aids to navigation (reference points) using stadimeter and alidade, and pelorus, as appropriate, following standard procedures, and plots those readings on chart of the area, in order to establish ship's navigational position.

TRAINING CONTENT	Functional:	<ul> <li>How to select reference points for ranges and bearings.</li> </ul>	• How to use stadimeter, alidade, and pelorus.	<ul> <li>How to transpose instrument readings to navigational charts.</li> </ul>	Specific:  • Knowledge of local fixed aids to navigation.
PERFORMANCE STANDARDS	Descriptive:	<ul> <li>Properly utilizes instruments.</li> </ul>	<ul> <li>Accurately reads ranges and bearings off instruments.</li> </ul>	<ul> <li>Precisely transposes those readings to charts.</li> </ul>	Numerical:  In 100% of the cases, ranges and bearings are determined and readings transposed to charts within acceptable limits commensurate with ship speed, channel configuration and limitations, and prevailing environmental situation at particular locale.

TASK CODE:	III.A.5	1.5							
	WORKER	VORKER FUNCTION LEVEL	AND ORIENTATION	TATION		00%	GENERA	GENERAL EDUCATIONAL DEVELOPMEN	/ELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAG
38	45	1A	5	3A	50	е	n	3	2

TASK CODE: III.A.5 GOAL: destination safely and expeditiously.  OBJECTIVE: Maintain designated track and speed within restricted waterway, modifying as required by conditions, order to avoid rammings and groundings.  TASK: Operates and takes readings from RDF, loran, Decca, and radar, from fathometer, and from Omega and Satellite

	PERFORMANCE STANDARDS	TRAINING CONTENT
Al	Descriptive:	Functional:
•	Selects the optimum system or combination of systems for most accurate and prompt acquisition of information.	How to operate and take ranges, bearings, and depth
•	Accurately reads selected system output and precisely transposes those data to charts.	readings from selected navigational system.  How to transpose those readings to navigational charts.
Z	Numerical:	Specific:
•	In 100% of the cases, ranges and bearings are determined and are within acceptable limits commensurate with ship speed, channel configuration	<ul> <li>Knowledge of local fixed aids to navigation or man- made and geophysical characteristics along track which present good radar targets.</li> </ul>
	and limitations, and prevalling environmental situa- tion at particular locale.	<ul> <li>Knowledge of availability and reliability of various electronic navigational systems within particular locale.</li> </ul>
Anna a marine		

	VELOPMENT	LANGUAGE	3
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	3
	GENERA	REASONING	2
	43 Na UM	INSTRUCTIONS	2
		%	20
	FATION	THINGS	1.4
	AND ORIEN	%	5
9.1	VORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
III.A.6	WORKER	%	75
TASK CODE:		DATA	2

TASK CODE:	III.A.6	GOAL: Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.
OBJECTIVE:	Maintain designated traconder to avoid rammings	Maintain designated track and speed within restricted waterway, modifying as required by conditions, in order to avoid rammings and groundings.
TASK: Monitor and directio	ASK: Monitors wind direction and spee and direction, in order to ascertain	Monitors wind direction and speed indicators, and obtains/reviews information on tides, currents, and wave height lirection, in order to ascertain wind, current, and tide/wave conditions.

PERFORMANCE STANDARDS	TRAINING CONTENT
 Descriptive:	Functional:
 • Correctly reads all instruments.	<ul> <li>How to read wind speed and direction indicators.</li> </ul>
 • Routinely ascertains pre-calculated tide and current data along track.	<ul> <li>How to visually estimate wave height and direction.</li> <li>Where to obtain tide and current data.</li> </ul>
 <ul> <li>Reliably estimates wave height and direction.</li> </ul>	Specific:
 Numerical:	Knowledge of prevailing environmental conditions
 <ul> <li>In 100% of the cases, readings and observations are within acceptable limits in accordance with par-</li> </ul>	along track and seasonal variations throughout the range of expected values.
 ticular situation.	

GENERAL E	NING	
	REASO	-
MON	INSTRUCTIONS	2
	%	10
ATION	THINGS	IA
AND ORIENT	%	5
FUNCTION LEVEL	PEOPLE	IA
WORKER	%	85
	DATA	F
		WORKER FUNCTION LEVEL AND ORIENTATION WORKER WORKER REASON REASON

WORK	VED CHACTION I SV							
	NEW FUNCTION PER	WORKER FUNCTION LEVEL AND ORIENT	TATION		WORKER	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	/ELOPMENT
DATA %	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
1 85	1A	5	1A	10	2	1	2	2
TASK CODE:	III.A.7	GOAL: dest	igate through (maneuver in) restr tination safely and expeditiously	n (maneuve ily and ex	icted	waters as required	in order	to reach
OBJECTIVE: Mai	Maintain design order to avoid	designated track avoid rammings an	and d gr	Lthin rest	speed within restricted waterway, mooundings.	modifying as req	required by conditions,	itions, in
TASK. Reads dials of instruments such as compand RPM indicator, visually scans steering machinery and propulsion system audio and vipropeller speed, and to monitor operating co	Reads dials of instruments such as compass, rudo PM indicator, visually scans steering and propu- nery and propulsion system audio and visual fail ller speed, and to monitor operating conditions	nts such as scans steer tem audio a	and I	idder anglopulsion spulsion spulsion spulsion spulsion spulsion spulsions and spulsions of steep spulsions of spulsions o	compass, rudder angle indicator, throttle position indicator, s ng and propulsion system status indicators, looks and listens d visual failure alarms, in order to ascertain heading, speed, g conditions of steering and propulsion systems.	throttle position indicator, speed indicating indicators, looks and listens for steering to ascertain heading, speed, rudder angle oulsion systems.	dicator, speed d listens for g, speed, rud	speed indicator, for steering rudder angle, and
	PERFORMAN	PERFORMANCE STANDARDS	S			TRAINING CONTENT	UNTENT	
Descriptive:  Correctly read  Numerical:  In 100% of the within accepta lar situation.	riptive: Correctly reads and surveys all instrumentation.  rical: In 100% of the cases, readings and observations are within acceptable limits in accordance with particular situation.	eys all insadings and in accorda	strumentation. observations are ance with particu	are sticu-	Functional:  How to read compass, ruposition indicator, spendicators.  How to monitor steering indicators.  How to recognize audio steering and propulsion steering and propulsion of particular indicator, of particular indicator specific ship.	How to read compass, rudder angle indicator, throttle position indicator, speed indicator, and RPM indicator How to monitor steering and propulsion system status indicators.  How to recognize audio and visual failure alarms for steering and propulsion system.  Ific:  Knowledge of location, arrangement, and characteristic of particular indicators, displays, and alarms on specific ship.	adder angle indicaled indicaled indicator, and gand propulsion stand visual failurales.  arrangement, and carrangement,	How to read compass, rudder angle indicator, throttle position indicator, speed indicator, and RPM indicator. How to monitor steering and propulsion system status indicators.  How to recognize audio and visual failure alarms for steering and propulsion system.  Iffic:  Knowledge of location, arrangement, and characteristics of particular indicators, displays, and alarms on specific ship.

1	
ь.	
1	
ŧ.	
1	
1	
ŀ	
1	
	8.1
1	
	(7)
1	
	6.3
	No.
	200
t -	-25-
	7.00
	(2)
	-
	- T
	-46
Ε.	
	penn

colone			
TO THE RESIDENCE AND ASSESSMENT OF THE PROPERTY OF THE PROPERT	FLOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMEN	MATH	2
	GENERAL	REASONING	2
	SINDBILLE	INSTRUCTIONS	n
-		%	10
	ATION	THINGS	2B
	AND ORIEN	%	5
	ORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	IA
	WURKER	%	85
		DATA	2

LANGUAGE	2	to reach
MATH	2	red in order t
REASONING	2	aters as requi
INSTRUCTIONS	6	Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.
%	10	(maneuve
THINGS	2B	Navigate through (maneuver in) restri destination safely and expeditiously.
%	5	GOAL: desi
PEOPLE	1A	
%	85	III.A.8
DATA	2	TASK CODE:

# Monitors voice radio (bridge-to-bridge, ship-to-shore, and vessel traffic system (VTS) network, as applicable), internal communication systems in order to maintain radio watch. TASK: and

Maintain designated track and speed within restricted waterway, modifying as required by conditions, in order to avoid rammings and groundings.

O BJECTIVE:

### TRAINING CONTENT Functional: PERFORMANCE STANDARDS Descriptive:

### Efficiently monitors all communications applicable Is attentive to all voice radio traffic. to own ship and situation.

#### Numerical:

# In 100% of the cases, all pertinent communications are detected, understood, and acknowledged.

### Knowledge of availability of various rf networks in particular locale. Specific:

How to operate various radio frequency (rf) equipment.

Knowledge of voice radio communication procedures.

1,000	9	Knowledge of	specific	rf	ledge of specific rf equipment prov	ided	On	on par-
		tion of the						

TASK CODE:	III.A.9	4.9							
	WORKER	FUNCTION LEVEL	L AND ORIENTATION			NA O O N	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	/ EL OPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING MATH	MATH	LANGUA
5B	06	1A	5	IA	10	5	9	7	8

	The spirit and the second seco	-	Naminate through (manager in) restricted vistors as required in order to resch
TASK CODE:	III.A.9	GOAL:	destination safely and expeditiously.
OBJECTIVE:	Maintain designa	ated t	Maintain designated track and speed within restricted waterway, modifying as required by conditions, in
	order to avoid rammings	rammin	es and eroundines.

ASK: Examines and evaluates total data input concerning environmental situation, own snip s characteristics, status of both onboard and external ancilliary equipment, and own ship's mission (purpose and goals), in order to determine course Examines and evaluates total data input concerning environmental situation, own ship's characteristics, status of of action to maintain desired track and speed within the prescribed limits of the waterway.

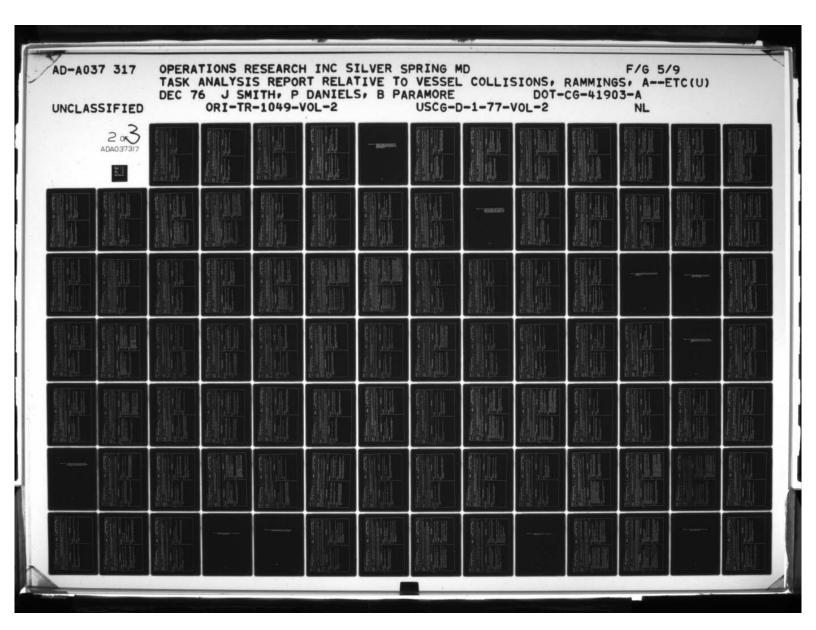
TRAINING CONTENT	Functional:	•	ertness, i.e., is to the ship), and environmental factors as they relate to ship controllability.	g input data and specific:	Knowledge of specific ship's hydrodynamic charac-	commensurate with teristics as they may be affected by prevailing
PERFORMANCE STANDARDS	Descriptive:	Anticipates any and all possibilities which may arise.	Continually maintains mental alertrivigilant.	Maintains sense of proportion among input data and various action options as situation changes or	progresses.	Makes decision in timely manner con

### and evaluated in accordance with the particular situa-In 100% of the cases, all pertinent data are examined tion before a decision is reached.

Numerical:

seasonal variations of those environmental conditions

through the range of expected values.



TASK CODE:	III.A.10	01.10							
	WORKER	VORKER FUNCTION LEVEL	. AND ORIENTATION	ration .		MORKER	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAG
2	5	. 5	06	10	5	3	7	1	2

TASK CODE:	III.A.10 GOAL: destination safely and expeditiously.
OBJECTIVE:	Maintain designated track and speed within restricted waterway, modifying as required by conditions, in order to avoid rammings and groundings.
TACK	

TASK: Conveys navigation orders to other bridge personnel (and tugboat operators if applicable), and verifies their comprehension, utilizing standard procedures and phraseology, in order to execute decisions for ship control.

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-9	Descriptive:	Functional:
3	• Is precise and timely in conveying navigational orders.	<ul> <li>How to phrase navigational orders.</li> </ul>
	• Ensures full understanding of order by other bridge personnel before, during, and after its execution.	Specific:
		Knowledge of bridge organization for various watch
	Numer I Cal:	conditions.
	• In 100% of the cases, orders are understood by	
	appropriate bridge personnel.	
-		
-		

	VELOPMENT	LANGUAGE	-
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	1
	GENERAL	REASONING	1
	03300	INSTRUCTIONS	1
		%	90
	NTATION	THINGS	18
	BIE	%	5
	WORKER FUNCTION LEVEL AND	PEOPLE	14
III.A.1	WORKER	%	45
TASK CODE:		DATA	2

TASK CODE:	III.A.11	GOAL: destination safely and expeditiously.
OBJECTIVE:	Maintain designated tracorder to avoid rammings	Maintain designated track and speed within restricted waterway, modifying as required by conditions, in order to avoid rammings and groundings.
TASK: Adjust: or internal	ASK: Adjusts RPM or pitch (if contro or internal communications circuits,	TASK: Adjusts RPM or pitch (if controllable) of ship's propeller(s) utilizing engine order telegraph, bridge throttles, or internal communications circuits, in order to change ship's speed.

TRAINING CONTENT	Functional:  • How to operate engine order telegraph, bridge throttles, and communications circuits.	<pre>Specific:</pre>	
PERFORMANCE STANDARDS	Descriptive:  • Expeditiously and accurately manipulates equipment to effect speed change.	Numerical:  • In 100% of the cases, all adjustments are made exactly as ordered (or desired).	

	VELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
	GENERA	REASONING	1
	andow	INSTRUCTIONS	2
		%	92
	TATION	THINGS	10
	AND ORIENTATION	%	20
A.12	WORKER FUNCTION LEVEL AND	PEOPLE	1A .
111.A.12	WORKER	%	55
TASK CODE:		DATA	2

	The state of the s	-	The state of the s	
TASK CODE:	III.A.12	: TO O O	Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.	
OBJECTIVE:	Maintain design order to avoid	ated tr	Maintain designated track and speed within restricted waterway, modifying as required by conditions, in order to avoid rammings and groundings.	

TASK: Turns ship's helm and reads compasses (gyro and magnetic) and rate of turn indicators (if provided) in order to change or maintain course.

TRAINING CONTENT	Functional:  • How to operate a helm.  • How to read a compass.  • How to read a rudder angle indicator and a rate of turn indicator.	<ul> <li>How to detect drift off desired heading.</li> <li>Specific:         <ul> <li>Knowledge of specific ship's handling characteristics, i.e., rudder rate, lateral stability, rate of turn, etc.</li> </ul> </li> </ul>	
PERFORMANCE STANDARDS	Descriptive:  Routinely and accurately manipulates helm to change or maintain course.  Continuously monitors compass, rudder angle, and rate of turn indicator.	Numerical:  In 100% of the cases, all readings of instrumentation are within acceptable limits in accordance with particular situation.  In 100% of the cases, all helm adjustments are made exactly as ordered (or desired).	

	VELOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	1
	GENERAL	REASONING	1
	WORKER	INSTRUCTIONS	1
		%	80
	ATION	THINGS	1
	AND ORIENT	%	5
13	VORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1
III.A.13	WORKER	×	15
TASK CODE:		DATA	1

TASK CODE:	III.A.13	GOAL:	Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.
OBJECTIVE:	Maintain designated to order to avoid rammin	nated t	track and speed within restricted waterway, modifying as required by conditions, in ngs and groundings.

TASK: Sounds ship's whistle and displays required identification/signal/flags in accordance with Rules of the Road, in order to maneuver in restricted waters safely and according to proper procedure.

			U	v	i.	
TRAINING CONTENT	Punctional:	How to operate ship whistle.     How to identify and use signal flags.	Knowledge of Rules of the Road pertaining to whistle and flag signals.	Specific:  • Knowledge of location of whistle controls (automatic and manual) and other day stonels on marticular whin		
PERFORMANCE STANDARDS	Descriptive:	• Correctly operates whistle and displays appropriate signal flags.	• Operation of whistle and displaying of flags is timely to changing course or ordering engines astern.	Numerical:  In 100% of the cases, all appropriate whistle signals are sounded.	• In 100% of the cases, all other appropriate day signals are displayed.	

Objective III.B: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings while simultaneously maintaining position within the limitations of the restricted waterway

	ELOPMENT	LANGUAGE	3
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	3
	GENERA	REASONING	3
	WORKER	INSTRUCTIONS	3
		%	20
	BIENTATION	THINGS	1A
	AND ORIENT	*	5
B.1	WORKER FUNCTION LEVEL AND O	PEOPLE	1A
III.B.1	WORKER	×	75
TASK CODE:		DATA	2

TASK CODE:	111.8.1	GOAL:	Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.
		,	

Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maintaining position within the limitations of the restricted waterway. OBJECTIVE:

Studies intended track, using appropriate navigational charts and publications, in order to acquaint self with local conditions of waterway limitations, prevailing environmental situation, aids to navigation, and potential navigational hazards.

TRAINING CONTENT

	Functional:	How to read
PERFORMANCE STANDARDS	Descriptive:	<ul> <li>Charts and publications are adequately studied.</li> </ul>
	F-9	8

# Charts and publications are adequately studied. Is thoroughly familiar with intended track, prevailing environmental situation, local aids to navigation, potential navigational hazards, and local nav-

# Numerical: In 100% of the cases, all relevant data are ascertained as dictated by the particular situation.

igation rules and practices.

# How to read and interpret navigational charts and publications. How to relate charts to actual physical environment. Specific: Knowledge of particular waterway, its aids to navigation and potential navigational hazards, local navigation rules and practices, and prevailing environmental conditions for that particular locale.

_	_
	-
1	~
1	ė
	-
- 1	_
1 3	
11	_
	Ë
	_
	200
3	_
1.3	
1-7	_
	_
	=
	CODE
13	~
	==
	w
1.07	-
	TASK
	_
	-

VELOPMENT	LANGUAGE	1
GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
GENERAL	REASONING	3
WORKER	INSTRUCTIONS	3
	*	25
ENTATION	THINGS	1A
AND ORIENT	×	5
IORKER FUNCTION LEVEL AND ORIE	PEOPLE	1A .
WORKER	*	70
	DATA	2

gate through (man	neuver in)	restricted	waters as re	equired 1	n order	to reac
 	gate through (ma	gate through (maneuver in)	Navigate through (maneuver in) restricted	gate through (maneuver in) restricted waters as r	gate through (maneuver in) restricted waters as required	avigate through (maneuver in) restricted waters as required in order to reach

OBLECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maintaining position within the limitations of the restricted waterway.

TASK: Visually scans the waters surrounding the intended track (course) utilizing the naked eye and binoculars in order to detect and identify navigational hazards and aids to navigation.

# PERFORMANCE STANDARDS

TRAINING CONTENT

Functional:

### Descriptive:

### Thoroughly scans the surrounding waters.

Accurately and promptly identifies various aids to navigation and navigational hazards.

#### Numerical:

In 100% of the cases, all necessary navigational aids and all navigational hazards are detected and identified.

# How to use binoculars. How to visually recognize hazards such as floating debris, shallow water, etc. How to visually recognize various aids to navigation such as fixed and floating channel markers, lighthouses, ranges, etc.

- Knowledge of navigational aids along the track and their particular characteristics.
- Knowledge of special hazards to navigation known in particular locale.

	/ELOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	3
	GENERAL	REASONING	3
	WORKER	INSTRUCTIONS	3
		%	07
	ATION	THINGS	3A
	AND ORIENTATION	%	5
8.3	WORKER FUNCTION LEVEL AND	PEOPLE	1A .
111.8.3	WORKER	*	55
TASK CODE:		DATA	2

TASK CODE:	111.8.3	9	DAL:	Navigate destinati	through on safel	(maneuve y and ex	r in) pedit	rest lous1	ricted.	d wate	ers a	layigate through (maneuver in) restricted waters as required in order to reach lestination safely and expeditiously.	in order t	to res	Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.
OBJECTIVE:	OBECTIVE: Identify and respond to notentially hazardous conditions in order to avoid collisions, rammings, and groundings.	spond t	0	otentially	hazardo	t cond	tions	tn o	rder	to av	ofd c	ollisions.	rammines	and	eroundines.

while simultaneously maintaining position within the limitations of the restricted waterway.

TASK: Operates the radar and fathometer in order to detect and identify navigational hazards and aids to navigation.

TRAINING CONTENT	Functional:	• How to manipulate radar unit, i.e., vary range scales sector search selector, intensity, range and bearing circles and lines, true or relative motion mode, etc.	• How to manipulate fathometer unit, i.e., vary depth scale, intensity, etc.	How to detect navigational hazards and aids to navi- oation on radar and fathometer.	How to identify navigational hazards and aids to	navigation on radar.	Specific:	• Knowledge of navigational aids along track, or man- made and geophysical characteristics which present	good radar targets.	• Knowledge of special hazards known in particular locale which present radar targets.	• Knowledge of individual ship's particular radar unit.	• Knowledge of individual ship's particular fathometer unit.	
PERFORMANCE STANJARDS	Descriptive:	Selects the optimum combination of range scales, sector search, intensity, etc., for the most accurate and prompt detection of navigational hazards and aids	Accurately detects various aids to navigation and	navigational hazards on radar.	proximity of bottom) on fathometer.	Numerical:	• In 100% of the cases, all necessary navigational	aids and all navigational hazards are detected.					

	GENERAL EDUCATIONAL DEVELOPMENT	LANGUAGE	2
	L EDUCATION	MATH	7
	GENERA	REASONING	3
	MORKER	INSTRUCTIONS	3
		%	35
	ORIENTATION	THINGS	2A
	147.57	×	5
	WORKER FUNCTION LEVEL AND	374034	. A1
ITT.D.4	WORKER	*	09
TASK CODE:		DATA	3A

	.B.4 GOAL: Navigate through (maneuver in) restricted waters as required in order to reach .B.4.	111.8.4 60	TASK CODE:
	.B.4   buAt: destination safely and expeditionsly.	III.8.4 60	I ASK CODE:
HASK COURT III.B.4 Gestination safely and expeditionsly.	. Navigate through (maneuver in) restricted waters as required in order to reach	03	TACK CODE.

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maintaining position within the limitations of the restricted waterway.

TASK: Visually determines ranges to and bearings of fixed aids to navigation (reference points) using stadimeter, alidade, and pelorus, as appropriate, following standard procedures, and plots those readings on chart of the area, in order to establish ship's navigational position.

TRAINING CONTENT	Functional:	How to select reference points for ranges and bearings.	• How to use stadimeter, alidade, and pelorus.	How to transpose instrument readings to navigational charts.	Specific:  • Knowledge of local fixed aids to navigation.
PERFORMANCE STANDARDS	Descriptive:	<ul> <li>Properly utilizes instruments.</li> </ul>	<ul> <li>Accurately reads ranges and bearings off instruments.</li> </ul>	<ul> <li>Precisely transposes those readings to charts.</li> </ul>	Numerical:  In 100% of the cases, ranges and bearings are dedetermined and readings transposed to charts within acceptable limits commensurate with ship speed, channel configuration and limitations, and prevailing environmental situation at particular locale.

	VELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	3
	GENERA	REASONING	3
	WORKED	INSTRUCTIONS	3
		%	50
	TATION	THINGS	3A
	AND ORIENTATION	%	5
8.5	IORKER FUNCTION LEVEL AND	PEOPLE	1A
III.B.5	WORKER	%	45
TASK CODE:		DATA	38

	h
A STATE OF THE PARTY OF THE PAR	o reac
	rder t
	fn o
	required
	8 28
	water
	restricted ously.
	in) editi
	(maneuver y and exp
	through on safel
	GOAL Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.
	111.8.5
	TASK CODE:

OBLECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maintaining position within the limitations of the restricted waterway.

TASK: Operates and takes readings from RDF, loran, Decca, and radar, from fathometer, and from Omega, in order to determine navigational position.

PER	PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:		Functional:
<ul> <li>Selects the optimu for most accurate tion.</li> </ul>	Selects the optimum system or combination of systems for most accurate and prompt acquisition of information.	<ul> <li>How to select appropriate navigational system.</li> <li>How to operate and take ranges, bearings, and depth readings from selected navigational system.</li> </ul>
<ul> <li>Accurately reads selected system transposes those data to charts.</li> </ul>	selected system output and precisely data to charts.	How to transpose those readings to navigational charts.
Numerical:  In 100% of the cases, ranges and mined and are within acceptable with ship speed, channel configutions, and prevailing environmen particular locale.	In 100% of the cases, ranges and bearings are determined and are within acceptable limits commensurate with ship speed, channel configuration and limitations, and prevailing environmental situation at particular locale.	<ul> <li>Specific:</li> <li>Knowledge of local fixed aids to navigation or manmade and geophysical characteristics along track, which present good radar targets.</li> <li>Knowledge of availability and reliability of various electronic navigational systems within particular.</li> </ul>

_	
,	111.8.6
	TASK CODE:
	2
	<b>A</b> SI
1	F

VELOPMENT	LANGUAGE	3
GENERAL EDUCATIONAL DEVELOPMEN	MATH	3
GENERAL	REASONING	2
WORKER	INSTRUCTIONS	2
	%	20
ration .	THINGS	1A
AND ORIENT	%	5
WORKER FUNCTION LEVEL AND ORIEN	PEOPLE	1A .
WORKER	%	75
	DATA	2

7400 0000	2 4 777		Navigate	through	(maneuver	tu)	avigate through (maneuver in) restricted waters as required in order to reach	waters	as I	.ednfred	fn o	rder	to r	each	
ASA CODE:	111.b.o	OOME	destinat	ion safel	destination safely and expeditionsly.	diti	ously.								

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maintaining position within the limitations of the restricted waterway.

TASK: Monitors wind direction and speed indicators, and obtains/reviews information on tides, currents, and wave height and direction, in order to ascertain wind, current, and tide/wave conditions.

	PERFORMANCE STANDARDS	TRAINING CONTENT
	Descriptive:	Functional:
•	Correctly reads all instruments.	<ul> <li>How to read wind speed and direction indicators.</li> </ul>
•	Routinely ascertains pre-calculated tide and current data along track.	<ul> <li>How to visually estimate wave height and direction.</li> <li>Where to obtain tide and current data.</li> </ul>
•	Reliably estimates wave height and direction.	
Z	Numerical:	Specific:  Vacatedes of argustitus environmental conditions alone
•	In 100% of the cases, readings and observations are	track and seasonal variations throughout the range of
	within acceptable limits in accordance with particular	expected values.
	situation.	

TASK CODE:	111.8.7	.B.7							
	WORKER	NORKER FUNCTION LEVEL	AND ORIENTATION	ATION		азхаом	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	/ELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAGE
1	85	IA.	5	1A	10	2	1	2	2

-	
	reach
	to
	order
	tt.
	Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditionsly.
1	as
	waters
	ted
The second name of the second na	tric
	resions
	edit
	uver
	and
010000000000000000000000000000000000000	gh (i fely
	Navigate through (maneuver in) restricted wat destination safely and expeditionsly.
	te t atio
	viga stin
	Na
	GOAL
The second second	7
	II.B.
The second second	
The second second	0E:
The second second	TASK CO

**JECTIVE**: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maintaining position within the limitations of the restricted waterway. OBJECTIVE:

TASK: Reads dials of instruments such as compass, rudder angle indicator, throttle position indicator, speed indicator, machinery and propulsion system audio and visual failure alarms, in order to ascertain heading, speed, rudder angle, and propeller speed, and to monitor operating conditions of steering and propulsion systems. and RPM indicator; visually scans steering and propulsion system status indicators; looks and listens for steering

TRAINING CONTENT	Functional:  • How to read compass, rudder angle indicator, throttle position indicator, speed indicator, and RPM indicator.  • How to monitor steering and propulsion system status indicators.  • How to recognize audio and visual failure alarms for steering and propulsion system.  Specific:  • Knowledge of location, arrangement, and characteristics of particular indicators, displays, and alarms on specific ship.
PERFORMANCE STANDARDS	Descriptive:  • Correctly reads and surveys all instrumentation.  Numerical: • In 100% of the cases, readings and observations are within acceptable limits in accordance with particular situation.

	:NT	LANGUAGE	2
	DEVELOPME	LA	
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	2
	GENERA	REASONING	2
	WORKER	INSTRUCTIONS	3
		%	10
	TATION	THINGS	2B
	AND ORIENT	%	5
8.8	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
III.B.8	WORKER	%	85
TASK CODE:		DATA	2

TASK CODE:	111.8.8	GOAL: A	Navigate destinat	avigate through (maneuver in) restric estination safely and expeditiously.	(maneur ly and (	rer in) expedit	avigate through (maneuver in) restricted waters as required in order to reach estination safely and expeditiously.	ed wa	ters	s requi	red I	as required in order to	to r	ach	
OBJECTIVE:	OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings,	d to po	tentiall	y hazard	ons con	ditions	in order	toa	blovi	0111810	ns, r	ammings	, and	groundings	

TASK: Monitors voice radio (bridge-to-bridge, ship-to-shore and vessel traffic system (VTS) network, as applicable) and internal communication systems in order to maintain radio watch. while simultaneously maintaining position within the limitations of the restricted waterway.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
<ul> <li>Is attentive to all voice radio traffic.</li> </ul>	• How to operate various radio frequency (rf) equipment.
<ul> <li>Efficiently monitors all communications applicable to own ship and situation.</li> </ul>	• Knowledge of voice radio communication procedures.
	Specific:
Numerical:	<ul> <li>Knowledge of availability of various rf networks in</li> </ul>
<ul> <li>In 100% of the cases, all pertinent communications are</li> </ul>	particular locale.
detected, understood, and acknowledged.	<ul> <li>Knowledge of specific rf equipment provided on par-</li> </ul>
	ticular ship.

	p
	æ
	TIT
•	
ı	
l	
l	
l	
l	
	4
	ú
	4
	.96
	ne.
	UE.
	JUE.
	ONE.
	.DUE.
	, OUE.
	CONF.
	CONE
	CONF.
	CONF.
	CODE
	K CODE.
	SK CODE.
	SK CODE.
	SK CODE.

FLOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMENT	MATH	2
GENERAL	REASONING	2
anaon	INSTRUCTIONS	2
	%	45
TATION	THINGS	2B
. AND ORIENT	%	5
WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
WORKER	%	20
	DATA	1

TIT D		Navigate through (maneuver in) restricted waters as required in order to	) ugno	maneuver	(ul	restricted	waters	as 1	required	in or	der t	o reach	_
I ASK CODE: LILL.D.	DO CONT.	GUAL: destination safely and expeditiously.	safely	and exp	editi	ously.							

OBLECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maintaining position within the limitations of the restricted waterway.

Monitors collision avoidance system (visual and electronic) in order to detect other vessel traffic in vicinity. TASK:

### PERFORMANCE STANDARDS

# Descriptive:

### Thoroughly scans the surrounding waters both visually Promptly and accurately detects other vessel traffic and electronically.

### Numerical:

in vicinity.

### In 100% of the cases, all other vessel traffic in vicinity is detected.

### TRAINING CONTENT

Functional:

# How to visually recognize other vessel traffic.

# How to operate electronic collision avoidance system.

#### Specific:

- Knowledge of prevailing traffic patterns along track, including seasonal variations.
- Knowledge of individual ship's specific electronic collision avoidance system.

#### F-106

5	_
	3.10
	III.B
	CODE:
	TASK CODE

The state of the s	/ELOPMENT	LANGUAGE	2
The same of the sa	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	7
the same of the sa	GENERAL	REASONING	\$
The state of the s	WORKER	INSTRUCTIONS	7
the same of the same of the same of		%	10
The second secon	ENTATION	THINGS	1A
The second secon	AND ORIENT	%	5
The second secon	VORKER FUNCTION LEVEL AND ORIE!	PEOPLE	1A·
The state of the s	WORKER	*	85
-		DATA	4

destination salety and expentitously.	TASK CODE: III.B	10	GOAL: Acetactic	hrough	(maneuver	in)	Navigate through (maneuver in) restricted waters as required in order to reach	waters	as	required	In o	order	to r	each
			DESCINALIO	TAIRS III	dya niig 6xb	TDA	Cousty.							

MECHIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maintaining position within the limitations of the restricted waterway. OBJECTIVE:

Assesses all other vessel traffic in vicinity and navigational situation in order to determine the existence of any real or potential collision hazard. TASK:

### PERFORMANCE STANDARDS

# Accurately determines the course, speed, closest point of approach (CPA), time to closest point of approach (TCPA) of all threatening traffic in vicinity.

- Properly ascertains the governing rules of the road and considers any other restraints imposed upon own ship or other traffic by local navigation rules, practices, and VTS, if applicable.
- Anticipates possible actions by threatening traffic which may dictate reassessment of situation.
- Makes assessment in timely manner commensurate with situation.

### Numerical:

In 100% of the cases, all pertinent traffic data are assessed for potential collision hazard.

### TRAINING CONTENT

# Understands principles of relative motion.

Functional:

How to determine course, speed, CPA, TCPA of all other vessels.

Understands applicable rules of the road and the limitations they impose upon his ship in determining potential collision hazard and possible counter action.

#### Specific:

- Knowledge of prevailing traffic patterns along track, including seasonal variations.
- Knowledge of local navigation rules, practices and VTS, if applicable.

Descriptive:

	ELOPMENT	LANGUAG	3
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	7
	GENERAL	REASONING	9
	WORKER	INSTRUCTIONS	5
		%	5
	TATION	THINGS	1A
	. AND ORIENTATION	%	5
111.8.11	WORKER FUNCTION LEVEL	PEOPLE	14
III.	WORKER	*	06
TASK CODE:		DATA	5B

	11 0 11	. Navigate through (maneuver in) restricted waters as required in order to reach
COUR	111.9.111	bulkt destination estate and asmoditionalin

Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maintaining position within the limitations of the restricted waterway. OBJECTIVE:

both onboard and external ancilliary equipment, collision hazards, and own ship's mission (purpose and goals), in order Examines and evaluates total data input concerning environmental situation, own ship's characteristics, status of to determine course of action to maintain desired track and speed within prescribed limits of waterway, while simultaneously avoiding collisions, rammings, or groundings.

# PERFORMANCE STANDARDS

### arise, especially other ship's intentions and actions. Anticipates any and all possibilities which may Descriptive

- Continually maintains mental alertness, i.e., is and various action options as situation changes Maintains sense of proportion among input data vigilant.
- Makes decisions in timely manner commensurate with situation,

or progresses.

### Numerical:

In 100% of the cases, all pertinent data are examined and evaluated in accordance with the particular situation before decision is reached.

### TRAINING CONTENT

Functional:

- ship, ancilliary equipment (both onboard and external to the ship), and environmental factors as they re-Understands interrelationships which exist among late to ship controllability.
- How to use regulations, conventions, principles, Rules of the Nautical Road (International and Inland) for navigating a ship in restricted waters.

#### Specific:

- environmental conditions at the particular locale and the seasonal variations of those environmental condi-Knowledge of own and other ship's hydrodynamic characteristics as they may be affected by prevailing tions through the range of expected values.
- shoreside ancilliary equipment provided in particular locale as they affect ship hydrodynamics and as they may be affected by varying environmental conditions Knowledge of own ship's ancilliary equipment and and other ship traffic.

	VELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
	GENERA	REASONING	7
	WORKER	INSTRUCTIONS	3
		%	5
	TATION	THINGS	10
	AND ORIENT	%	06
B.12	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	. 5
III.B.12	WORKER	*	2
TASK CODE:		DATA	2

TASK CODE:	111.8.12	Navigate through (maneuver in) restricted waters as required in order to reach 60AL: destination safely and expeditiously.	
OBJECTIVE:	Identify and respondental	OBLECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maintaining position within the limitations of the restricted waterway.	188,

H	
) and verifies thei	for ship control.
applicable,	decisions
tugboat operators 1f	in order to execute
rsonnel (and t	phraseology,
Conveys navigation orders to other bridge personnel (and tugboat operators if applicable) and verifies their	mprehension, utilizing standard procedures and phraseology, in order to execute decisions for ship control.
TASK	2

_		
	PERFORMANCE STANDARDS	TRAINING CONTENT
F-1	Descriptive:	Functional:
09	• Is precise and timely in conveying navigational	How to phrase navigational orders.
	• Ensures full understanding of order by other bridge personnel before, during, and after its execution.	Specific:  • Knowledge of bridge organization for various watch
	Numerical:	conditions.
A REF	• In 100% of the cases, orders are understood by appropriate bridge personnel.	

	VELOPMENT	LANGUAGE	-
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
	GENERA	REASONING	1
	WORKER	INSTRUCTIONS	1
		%	20
	FATION	THINGS	118
	. AND ORIENTATION	%	5
B.13	WORKER FUNCTION LEVEL AND	PEOPLE	1A
III.B.13	WORKER	%	57
TASK CODE:		DATA	2

TASK CODE:	III.B.13	Navigate through (maneuver in) restri GOAL: destination safely and expeditiously.	Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.
OBJECTIVE: Ident while simulta	tify and responance.	nd to potentially hazardous condiaining position within the limita	JECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maintaining position within the limitations of the restricted waterway.
TASK: Adjusts R or internal co	PM or pitch (1 ommunications	ASK: Adjusts RPM or pitch (if controllable) of ship's propeller(s) ution internal communications circuits, in order to change ship's speed.	Adjusts RPM or pitch (if controllable) of ship's propeller(s) utilizing engine order telegraph, bridge throttles, nternal communications circuits, in order to change ship's speed.
	PERFORMAN	PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:  Expedition effect sp	riptive: Expeditiously and accur effect speed change.	<u>riptive</u> : Expeditiously and accurately manipulates equipment to effect speed change.	<ul><li>Functional:</li><li>How to operate engine order telegraph, bridge throttles, and communications circuits.</li></ul>
Numerical: In 100% o as ordere	rical: In 100% of the cases, al as ordered (or desired).	In 100% of the cases, all adjustments are made exactly as ordered (or desired).	Specific: • Special characteristics and location of own ship's equipment.

TASK CODE:	111.8.14	8.14							
	WORKER	NORKER FUNCTION LEVEL	EL AND ORIENTATION	TATION		MODINE	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	×	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUA
2	45	1A .	20	10	50	2	1	1	2

				-					-			-	
TASK CODE:	111.B.	14	GOAL: de	Navigate through destination safel	hrough n safel	Navigate through (maneuver in) restric destination safely and expeditiously.	r in) peditic	restricted ously.	waters	as requir	Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.	to reac	ų

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maintaining position within the limitations of the restricted waterway.

TASK: Turns ship's helm and reads compasses (gyro and magnetic) and rate of turn indicators (if provided) in order to change or maintain course.

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-	Descriptive:	Functional:
111	•	<ul> <li>How to operate a helm.</li> </ul>
	or maintain course.	• How to read a compass.
	<ul> <li>Continuously monitors compass, rudder angle, and rate of turn indicator.</li> </ul>	<ul> <li>How to read a rudder angle indicator and a rate of turn indicator.</li> </ul>
	Numerical:	<ul> <li>How to detect drift off desired heading.</li> </ul>
	• In 100% of the cases, all readings of instrumentation are within acceptable limits in accordance with particular situation.	<pre>Specific:</pre>
	• In 100% of the cases, all helm adjustments are made exactly as ordered (or desired).	i.e., rudder rate, lateral stability, rate of turn, etc.

	VELOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
	GENERAL	REASONING	1
	WORKER	INSTRUCTIONS	1
		%	80
	ATION	THINGS	1
	. AND ORIENT	%	5
.15	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1
III.B.15	WORKER	%	15
TASK CODE:		DATA	1

	Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.
	a
	re
	0
	Ť.
	H
	de
	or
	-
	17
	P
	re
	Li
	ba
	re
	co co
	a
	S
	eı
	at
	3
	P
	te
	ic y
	ST
	SS
	i i
	it
	fn
	L B
	Navigate through (maneuver in) restri destination safely and expeditious)
	30
	ne
	na 7
	5.5
	fe
18	ug
	ro
	h
	t e
	at
	00 T
	Vi
	Na
	•:
	AL:
	GOAL:
	5 G0AL
	III.B.15 GOAL:
	5 G0AL
	5 G0AL
	5 G0AL
	E: III.B.15 GOAL
	5 G0AL

underive: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groudings, while simultaneously maintaining position within the limitations of the restricted waterway.

OBJECTIVE:

TASK: Sounds ship's whistle and displays required identification/signals/flags in accordance with Rules of the Road, in order to maneuver in restricted waters safely and according to proper procedure.

	PERFORMANCE STANDARDS	TRAINING CONTENT
De	Descriptive:	Functional:
•	Correctly operates whistle and displays appropriate signal flags.	How to operate ship whistle.
•	Operation of whistle and displaying of flags is timely to changing course or ordering engines astern.	Knowledge of Rules of the Road pertaining to whistle and flag signals.
NE	Numerical:	Specific:
•	In 100% of the cases, all appropriate whistle signals are sounded.	Knowledge of location of whistle controls (automatic and manual) and other day signals on narricular shin.
•	In 100% of the cases, all other appropriate day signals are displayed.	

Objective III.C: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, while simultaneously maintaining position within the limitations of the restricted waterway when some emergency arises

TASK CODE:	111.0.1	2.1							
	WORKER	MORKER FUNCTION LEVEL	L AND ORIENTATION	FATION		WORKER	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	/ELOPMENT
DATA	%	PECPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUA
2	51	14	5	1A	20	3	3	3	3

The second secon															
TACK CODE.	III.C.1	. 1403	Navigate	ate through (1	(maneuver	(u.	e through (maneuver in) restricted waters as required in order to reach	waters	as r	equired	in or	der t	o re	each	
HASH CODE:		DOME.	destinati	on safel	ation safely and expeditiously.	11110	usly.								

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings while simultaneously maintaining position within the limitations of the restricted waterway when some emergency arises.

TASK: Studies intended track, using appropriate navigational charts and publications, in order to acquaint self with local conditions of waterway limitations, prevailing environmental situation, aids to navigation, and potential navigational hazards. TASK:

 PERFORMANCE STANDARDS	TRAINING CONTENT
 Descriptive:	Functional:
 <ul> <li>Charts and publications are adequately studied.</li> </ul>	<ul> <li>How to read and interpret navigational charts and</li> </ul>
 • Is thoroughly familiar with intended track, prevailing	publications.
 environmental situation, local aids to navigation,	<ul> <li>How to relate charts to actual physical environment.</li> </ul>
 potential navigational hazards, and local navigation	
 rules and practices.	Specific:
 Numerical:	<ul> <li>Knowledge of particular waterway, its aids to navigation</li> </ul>
	and potential navigational hazards, local navigation
 • In 100% of the cases, all relevant data are	rules and practices, and prevailing environmental
 ascertained as dictated by the particular	conditions for that particular locale.
 situation.	

Γ	
	III.C.2
	TASK CODE:

	_		_
	VELOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
	GENERAL	REASONING	3
	WORKED	INSTRUCTIONS	3
		%	25
The second secon	TATION	THINGS	1A
	AND ORIENT	%	5
	JORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
	WORKER	*	02
-		DATA	2

TACK CODE.	111.6.2	. 1403	Navigate	through	maneuve	(III	Navigate through (maneuver in) restricted waters as required in order to reach	i water	s as	require	d in	order	to	reach	
HASH CODE.		GOAL.	destinat	ton safe	destination safely and expeditious	edit	fously.								

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings while simultaneously maintaining position within the limitations of the restricted waterway when some emergency arises.

Visually scans the waters surrounding the intended track (course) utilizing the naked eye and binoculars in order to detect and identify navigational hazards and aids to navigation. TASK:

### TRAINING CONTENT Functional: PERFORMANCE STANDARDS

### . How to use binoculars.

### How to visually recognize hazards such as floating debris, shallow water, etc.

 How to visually recognize various aids to navigation such as fixed and floating channel markers, lighthouse, ranges, etc.

#### Specific:

In 100% of the cases, all necessary navigational aids and all navigational hazards are detected and identi-

Numerical:

fied.

Accurately and promptly identifies various aids to navigation and navigational hazards.

Thoroughly scans the surrounding waters.

- Knowledge of navigational aids along the track, and their particular characteristics.
- Knowledge of special hazards to navigation known in particular locale.

### -11-

	VELOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	3
	GENERA	REASONING	3
	WORKER	INSTRUCTIONS	3
		%	07
	ORIENTATION	THINGS	3A
	AND ORIEN	%	5
2.3	WORKER FUNCTION LEVEL AND	PEOPLE	1.4
III.C.3	WORKER	%	55
TASK CODE:		DATA	2

TASK CODE:	111.0.3	09	Mavigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.	ach
OBJECTIVE.	Identify and	respond	dentify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings	groundings

UNDEFINE: A CONTROLLY SINGUISTING TO POSITION WITHIN THE LIMITATIONS Of the restricted waterway when some emergency arises.

Operates the radar and fathometer in order to detect and identify navigational hazards and aids to navigation. TASK:

TRAINING CONTENT	Functional:	<ul> <li>How to manipulate radar unit, i.e., vary range scales, sector search selector, intensity, range and bearing circles and lines, true or relative motion mode, etc.</li> <li>How to manipulate fathometer unit, i.e., vary depth scale, intensity, etc.</li> <li>How to detect navigational hazards and aids to navigation on radar and fathometer.</li> <li>How to identify navigational hazards and aids to navigation on radar and fathometer.</li> <li>Specific:</li> <li>Knowledge of navigational aids along track, or manmade and geophysical characteristics which present good radar targets.</li> <li>Knowledge of special hazards known along route which present radar targets.</li> <li>Knowledge of individual ship's particular radar unit.</li> <li>Knowledge of individual ship's particular fathometer unit.</li> </ul>	
PERFORMANCE STANDARDS	Descriptive:	• Selects the optimum combination of range scales, sector search, intensity, etc., for the most accurate and prompt detection of navigational hazards and aids to navigation. • Accurately detects various aids to navigation and navigational hazards on radar. • Accurately detects any navigational hazards on fathometer.  Numerical:  • In 100% of the cases, all necessary navigational aids and all navigational hazards are detected.	

ı	
1	
ı	
ı	
ı	
ı	
ı	-3
ı	
ì.	
ı	-
ı	-
	-
ı	
ı	
ı	
Į.	
1	
1	E
ı	=
ı	=
ı	-
ı	*
1	9
ı	2

FLOPMENT	LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMENT	МАТН	7
GENERAL	REASONING	3
0.500	INSTRUCTIONS	3
	%	35
ATION	THINGS	2A
AND ORIENT	%	5
WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
WORKER	%	09
	DATA	3.4

ų		
o reac		
order t		
ut p		
require		-
8 88		
water		
ricted	٧.	
rest	lous1	
in)	ed1t:	
neuver	and exp	
ih (m	ely a	
through	on saf	
Navigate through (maneuver in) restricted waters as required in order to reach	destination safely and expeditiously.	
. 1403	OOME.	
7 0		
TIT		
TACK CODE.	HASH CODE.	

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings while simultaneously maintaining position within the limitations of the restricted waterway when some emergency arises.

stadimeter, alidade, and pelorus, as appropriate, following standard procedures, and plots those readings on chart of the area, in order to establish ship's navigational position. TASK:

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
<ul> <li>Properly utilizes instruments.</li> </ul>	How to select reference points for ranges and bearings
Accurately reads ranges and bearings off instruments.	How to use stadimeter, alidade, and pelorus.
• Precisely transposes those readings to charts.	How to transpose instrument readings to navigational charts.
Numerical:	
• In 100% of the cases, ranges and bearings are determined	Specific:
and readings transposed to charts within acceptable	Knowledge of local fixed aids to navigation.

limits commensurate with ship speed, channel configuration and limitations, and prevailing environmental sit-

uation along route.

TASK CODE:	111.0.5	c.5							
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIENT	FATION		WORKER	GENERA	GENERAL EDUCATIONAL DEVELO	2
DATA	*	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	
38	45	1A	5	3A	50	3	3	3	
	The second secon				The second secon		The same of the sa		

2

OPMENT

TASK CODE:	111.6.5	Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.
OBJECTIVE while	Identify and responding implications in the state of the	OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings while simultaneously maintaining position within the limitations of the restricted waterway when some emergency arises.

TASK: Operates and takes readings from RDF, loran, Decca, and radar, from fathometer, and from Omega and satellite navigator, in order to determine lines of position, water depths, and navigational positions, respectively. TASK:

TRAINING CONTENT	
PERFORMANCE STANDARDS	

	PERFORMANCE STANDARDS		TRAINING CONTENT
es	Descriptive:	Fun	Functional:
	Selects the optimum system or combination of systems for most accurate and prompt acquisition of informa-	•	How to select appropriate navigational system.
	tion.	•	How to operate and take ranges, bearings, and depth readings from selected navigational system.
	Accurately reads selected system output and precisely transposes those data to charts.	•	How to transpose those readings to navigational charts.

#### In 100% of the cases, ranges and bearings are determined and are within acceptable limits commensurate tions, and prevailing environmental situation along with ship speed, channel configuration and limita-Numerical:

### Knowledge of those fixed aids to navigation or manmade and geophysical characteristics along route which present good radar targets.

Specific:

Knowledge of availability and reliability of various electronic navigational systems within particular locale.

TASK CODE:	111.	III.C.6							
	WORKER	JORKER FUNCTION LEVEL AND ORIENTATION	AND ORIEN	TATION		MODINED	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	/ELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUA
2	75	1.4	5	1A	20	2	2	3	3

n order to reach	
Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.	
Navigate through (maneuver in) restridestination safely and expeditiously.	
II.C.6 GOAL:	
TASK CODE: II	

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings while simultaneously maintaining position within the limitations of the restricted waterway when some emergency arises.

TASK: Monitors wind direction and speed indicators, and obtains/reviews information on currents and wave height and direction, in order to ascertain wind, current, and wave conditions.

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-11	Descriptive:	Functional:
9	• Correctly reads all instruments.	<ul> <li>How to read wind speed and direction indicators.</li> </ul>
	<ul> <li>Routinely ascertains pre-calculated current data along track.</li> </ul>	<ul> <li>How to visually estimate wave height and direction.</li> </ul>
	<ul> <li>Reliably estimates wave height and direction,</li> </ul>	<ul> <li>Where to obtain current data.</li> </ul>
	Numerical:	Specific:
	<ul> <li>In 100% of the cases, readings and observations are within acceptable limits in accordance with particular situation.</li> </ul>	• Knowledge of prevailing environmental conditions along route and seasonal variations throughout the range of expected values.

_	-	
GENERA	REASONING	1
WORKER	INSTRUCTIONS	2
	%	10
ATION	THINGS	1.8
AND ORIENT	%	5
FUNCTION LEVEL	PEOPLE	IA
WORKER	%	85
	DATA	1
	WORKER FUNCTION LEVEL AND ORIENTATION GENERAL	WORKER FUNCTION LEVEL AND ORIENTATION WORKER WORKER REASO % INSTRUCTIONS REASO

MATH 7

L EDUCATIONAL DEVELOPMENT

TASK CODE:	111.0.7	G0AL:	Navigate through (maneuver in) restricted waters as required in order to reach it destination safely and expeditiously.
OBJECTIVE:	DBJECTIVE: Identify and respond to pot	espond to	potentially hazardous conditions in order to avoid collisions, rammings, and groundings

while simultaneously maintaining position within the limitations of the restricted waterway when some emergency arises.

TASK: Reads dials of instruments such as compass, rudder angle indicator, throttle position indicator, speed indicator, and RPM indicator; visually scans steering and propulsion system status indicators; looks and listens for steering machinery and propulsion system audio and visual failure alarms, in order to ascertain heading, speed, rudder angle, and Reads dials of instruments such as compass, rudder angle indicator, throttle position indicator, speed indicator, propeller speed, and to monitor operating conditions of steering and propulsion systems.

 TRAINING CONTENT	Functional:	How to read compass, rudder angle indicator, throttle     nosition indicator and NDM indicator	posteron instract, speed instracti, and Annintracti.	indicators.	Specific:	• Knowledge of location, arrangement, and characteristics of particular indicators, displays, and alarms on specific ship.			
PERFORMANCE STANDARDS	Descriptive:	• Correctly reads and surveys all instrumentation.	Numerical:	• In 100% of the cases, readings and observations are within acceptable limits in accordance with particular	situation.				

TASK CODE:	111.C.8	8:3							
	WORKER	VORKER FUNCTION LEVEL AND ORIENTATION	AND ORIENT	ATION		WORKER	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	/ELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
2	85	1A	5	28	10	3	2	2	2

TASK CODE:	111.0.8	GOAL:	Navigate through (maneuver in) restricted waters as required in order to reach destination safely and expeditiously.
OBJECTIVE: while si	OBJECTIVE: Identify and respond to powhile simultaneously maintaining p	d to p	NAMECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings while simultaneously maintaining position within the limitations of the restricted waterway when some emergency arises.

TASK: Monitors voice radio (bridge-to-bridge, ship-to-shore, and vessel traffic system (VTS) network, as applicable) and internal communication systems in order to maintain radio watch.

	PERFORMANCE STANDARDS	TRAINING CONTENT
ă	Descriptive:	Functional:
•	Is attentive to all voice radio traffic.	• How to operate various radio frequency (rf) equipment.
•	Efficiently monitors all communications applicable to own ship and situation.	<ul> <li>Knowledge of voice radio communication procedures.</li> </ul>
N	Numerical:	Knowledge of availability of various rf networks in
•	In 100% of the cases, all pertinent communications	particular locale.
	are detected, understood and acknowledged.	<ul> <li>Knowledge of specific rf equipment provided on particular ship.</li> </ul>

	-
111.C.9	-
TASK CODE:	

	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIEN	TATION		WORKER	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	/ELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
1	20	1.8	5	28	45	2	2	2	2

	0 0 111	Navigate through (maneuver in) restricted waters as required in order to reach	ed in order to	reach
TASK CODE:	111.0.3	bual destination safely and expeditionsly.		

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings while simultaneously maintaining position within the limitations of the restricted waterway when some emergency arises.

#### TASK:

Monitors collision avoidance system (visual and electronic) in order to detect other vessel traffic in vicinity.

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-1	Descriptive:	Functional:
22	• Thoroughly scans the surrounding waters both visually and electronically.	<ul> <li>How to visually recognize other vessel traffic.</li> </ul>
	<ul> <li>Promptly and accurately detects other vessel traffic in vicinity.</li> </ul>	<ul> <li>How to operate electronic collision avoidance system.</li> <li>Specific:</li> </ul>
	Numerical:	• Knowledge of prevailing traffic patterns along track,
	• In 100% of the cases, all other vessel traffic in vicinity is detected.	Knowledge of individual ship's specific electronic
		collision avoidance system.

TASK CODE:	111.C.10	c.10							
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIENT	FATION		WORKER	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	/ELOPMENT
DATA	*	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
4	85	1A	5	1A	10	4	5	4	2

IASK CODE: LITTOCIA GOAL destination safely and expeditionsly.	01 0 111
The state of the s	111.0.10

while simultaneously maintaining position within the limitations of the restricted waterway when some emergency arises. OBNECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings

Assesses all other vessel traffic in vicinity and navigational situation in order to determine the existence of any real or potential collision hazard. TASK:

				۱	
				l	
				ļ	
				۱	
				ĺ	
				l	
				l	
				İ	
				۱	
				l	
				l	
				١	
				١	
				١	
				l	
				١	
				١	
				١	
				I	
				١	
				١	
				Į	
				١	
				١	
				١	
				l	
				ŀ	
				١	
				١	
				l	
				١	
				١	
				l	
				Į	
				١	
				ĺ	
				l	
				١	
				١	
				١	
				l	
				l	
				۱	
				۱	
				۱	
				١	
				١	
				۱	
				۱	
				I	
				١	
				١	
				١	
				١	
				١	
				١	
				١	
				1	

PERFORMANC	PERFORMANCE STANDAR	PERFORMANCE STANDARDS riptive:
MANC	MANCE STANDAR	MANCE STANDARDS
	ESTANDAR	E STANDARDS
80	1000	

- of approach (CPA), time to closest point of approach (TCPA) of all threatening traffic in vicinity.
- Properly ascertains the governing Rules of the Road and considers any other restraints imposed upon own ship or other traffic by local navigation rules, practices, and VTS, if applicable.
- Anticipates possible actions by threatening traffic which may dictate reassessment of situation.
- Makes assessment in timely manner commensurate with situation.

### Numerical:

In 100% of the cases, all pertinent traffic data are assessed for potential collision hazard.

### TRAINING CONTENT

Understands principles of relative motion.

Functional:

- How to determine course, speed, CPA and TCPA of all other vessels.
- limitations they impose upon his ship in determining Understands applicable Rules of the Road and the potential collision hazard and possible counter action.

#### Specific:

- Knowledge of prevailing traffic patterns along track, including seasonal variations.
- Knowledge of local navigation rules, practices and VTS, if applicable.

	III.C.11							
3	WORKER FUNCTION LEVEL AND ORIENTATION	EVEL AND ORIEN	TATION		WORKER	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
	% PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAGE
	90 IA	5 .	1A	2	2	9	7	e

		-		T		
TACK CODE.	111 0 111	. 1403	Navigate through (maneuve	or in) restricted waters a	Navigate through (maneuver in) restricted waters as required in order to reach	
HON COUR	111.0.111	COME	destination safely and expeditiously,	speditionsly.		

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings while simultaneously maintaining position within the limitations of the restricted waterway when some emergency arises.

Examines and evaluates total data input concerning environmental situation, own ship's characteristics, status of both onboard and external ancilliary equipment, collision hazards, and own ship's mission (purpose and goals), in order to determine course of action to maintain desired track and speed within prescribed limits of waterway, while

ons, rammings, or groundings when a non-ship-control-related emergency occurs.	TRAINING CONTENT
when a non-ship-	
groundings	
rammings, or	ARDS
ollisi	<b>ORMANCE STAND</b>
y avoiding co	PERF
ultaneously a	

### Descriptive:

- Anticipates any and all possibilities which may arise, especially other ships' intentions and actions.
- Continually maintains mental alertness, i.e., is vigilant.
- various action options as situation changes or pro-Maintains sense of proportion among input data and gresses.
- Makes decision in timely manner commensurate with situation
- Acts effectively and with aplomb under pressure.

#### Numerical:

In 100% of the cases, all pertinent data are examined and evaluated in accordance with the particular situation before decision is reached

### Functional:

- the ship), and environmental factors as they relate to How to use regulations, conventions, principles, Rules Understands interrelationships which exist among ship, of the Nautical Road (International and Inland) for ancilliary equipment (both onboard and external to ship controllability.
  - navigating a ship in restricted waters.

#### Specific:

- Knowledge of own and other ships' hydrodynamic characteristics as they may be affected by prevailing environseasonal variations of those environmental conditions mental conditions at the particular locale and the through the range of expected values.
- side ancilliary equipment provided in particular locale Knowledge of own ship's ancilliary equipment and shoreaffected by varying environmental conditions and other as they affect ship hydrodynamics and as they may be ship traffic.
- Knowledge of particular ship's emergency bill organization and emergency procedures.

Γ		_
١		
ı		
ı	9	71
		;
	1	7.111
	•	-
		ü
	5	CODE
		7
	-	

	-	A STATE OF THE PARTY OF THE PAR
/ELOPMENT	LANGUAGE	3
GENERAL EDUCATIONAL DEVELOPMENT	MATH	7
GENERAL	REASONING	9
WORKER	INSTRUCTIONS	5
	%	5
ATION	THINGS	1.8
AND ORIENT	%	5
WORKER FUNCTION LEVEL AND ORIE!	PEOPLE	1A
WORKER	%	06
	DATA	58

	avigate through (maneuver in) restricted waters as required in order to reach	tiously.
	gh (maneuver in	GUAL: destination safely and expeditiously
	Navigate throu	destination sa
		GUAL
		.2
9		II.C.I
		_

Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings while simultaneously maintaining position within the limitations of the restricted waterway when some emergency arises. OBJECTIVE:

both onboard and external ancilliary equipment, collision hazards, and own ship's mission (purpose and goals), in order to determine course of action to maintain desired track and speed within prescribed limits of waterway, while simultan-Examines and evaluates total data input concerning environmental situation, own ship's characteristics, status of eously avoiding collisions, rammings or groundings when a ship-control-related emergency (such as a loss of propulsive power or steering) occurs

## PERFORMANCE STANDARDS

1	
1	
1	
1	
1	
1	
1	

TRAINING CONTENT

# Functional: • Understands interrelationships which exist among ship, ancilliary equipment (both onboard and external to ship) and environmental factors as they relate to ship controllability.

# Knowledge of procedures for various ship control emergencies.

How to use regulations, conventions, principles, Rules of the Nautical Road (International and Inland) for navigating a ship in restricted waters.

#### Specific:

In 100% of the cases, all pertinent data are examined

and evaluated in accordance with the particular

situation before decision is reached,

Knowledge of own and other ships' hydrodynamic characteristics as they may be affected by prevailing environmental conditions at the particular locale and the seasonal variations of those environmental conditions through the range of expected values.
Knowledge of own ship's ancilliary equipment and shoreside ancilliary equipment provided in particular locale as they affect ship hydrodynamics and as they may be

# affected by varying environmental conditions and other ship traffic. • Knowledge of particular ship's emergency bill organzation and emergency procedures.

#### F-125

Descriptive:

Anticipates any and all possibilities which may arise,

Maintains sense of proportion among input data and

various action options as situation changes or

progresses.

situation.

Numerical:

Continually maintains mental alertness, i.e., is

especially other ships' intentions and actions.

Makes decision in timely manner commensurate with

Acts effectively and with aplomb under pressure.

TASK CODE:	111.0.13	5.13							
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIEN	TATION		WORKER	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	/ELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
2	5	. 5	06	10	5	3	4	1	2

	-		-			WUHKEH			
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
2	5	2	06	10	5	3	7	1	2
TASK CODE:	III.	III.C.13	GOAL: des	Navigate through (maneuver in) restridestination safely and expeditiously,	(maneuver in)	r in) restricted wat	restricted waters as required in order to reach ously.	d in order to	o reach
OBJECTIVE: while sim	Identify	Identify and respond to ultaneously maintaining	d to poten	ntially hazar tion within t	dous cond he limita	identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings simultaneously maintaining position within the limitations of the restricted waterway when some emergency arises.	word collision ted waterway w	s, rammings, hen some emer	and groundings
TASK: Cor	nveys nav nd phrase	(ASK: Conveys navigation orders to cedures and phraseology, in order to	ers to ot rder to e	ther bridge personnel and verifies execute decisions for ship control.	rsonnel a	Conveys navigation orders to other bridge personnel and verifies their comprehension, utilizing standard pro- and phraseology, in order to execute decisions for ship control.	omprehension, u	tilizing star	ndard pro-
		PERFORMANCE STANDARDS	E STANDARI	SU			TRAINING CONTENT	NTENT	
Descriptive:	.: !!					Functional:			
•	scise and	Is precise and timely in conveyin	conveying	g navigational orders.	orders.	How to phrase	How to phrase navigational orders.	rders.	
• Ensure person Numerical:	es full u	Ensures full understanding of order personnel before, during, and after rical:	g of orde and afte	Ensures full understanding of order by other bridge personnel before, during, and after its execution.rical:	idge on.	Specific:  • Knowledge of b	Ific: Knowledge of bridge organization for various watch	tion for vari	lous watch
• In 100 propri	% of the	In 100% of the cases, orders are propriate bridge personnel.		understood by	ap-				

	VELOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
	GENERA	REASONING	1
	WORKER	INSTRUCTIONS	1
		%	90
	TATION	THINGS	18
	. AND ORIENTATION	%	5
5.14	NORKER FUNCTION LEVEL AN	PEOPLE	1A
III.C.14	WORKER	%	45
TASK CODE:		DATA	2

45 1A 5 1B 50 1 1 1 1 1	III.C.14 GOAL: destination safely and expeditiously.	RECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings while simultaneously maintaining position within the limitations of the restricted waterway when some emergency arises.	ASK: Adjusts RPM or pitch (if controllable) of ship's propeller(s) utilizing engine order telegraph, bridge throttles, or internal communications circuits, in order to change ship's speed.	PERFORMANCE STANDARDS TRAINING CONTENT	Functional:	Expeditiously and accurately manipulates equipment to and communications circuits.	Specific:	In 100% of the cases, all adjustments are made exactly equipment.  equipment.	
2 45	TASK CODE: III.	OBJECTIVE: Identify while simultaneou	TASK: Adjusts RP or internal commu		Descriptive:	<ul> <li>Expeditiously effect speed</li> </ul>	Numerical:	In 100% of the as ordered (o)	

TASK CODE:	III.C.15	2.15							
	WORKER	NORKER FUNCTION LEVEL AND ORIENTATION	AND ORIENT	TATION		MOBKEE	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUA
2	45	1A	20	10	20	2	1	1	2

AGE

r to reach	
r to re	
n order	
equired i	
S as r	
d water	
lavigate through (maneuver in) restricted waters as required in order to	destination safely and expeditiously.
r in)	pedit
(maneuve	y and ex
through	ion safel
Navigate	destinat
	GUAL
TIT C 15	61.6.111
	SK CODE:

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings while simultaneously maintaining position within the limitations of the restricted waterway when some emergency arises.

(ASK: Turns ship's helm and reads compasses (gyro and magnetic) and rate of turn indicators (if provided) in order to change or maintain course. TASK:

PERFORMANCE STANDARDS		TRAINING CONTENT
Descriptive:		Functional:
<ul> <li>Routinely and accurately manipulates helm to change or maintain course.</li> </ul>	lm to change	• How to operate a helm.
• Continuously monitors compass, rudder angle, and rate	ngle, and rate	How to read a compass.
of turn indicator.		<ul> <li>How to read a rudder angle indicator and a rate of turn indicator.</li> </ul>
Numerical:		
• In 100% of the cases, all readings of instrumentation	nstrumentation	• now to detect drift oil desired negging.
are within acceptable limits in accordance with particular situation.	nce with par-	Specific:
• In 100% of the cases, all helm adjustments are made	nts are made	• Knowledge of specific ship's handling characteristics, i.e., rudder rate, lateral stability, rate of turn,
exactly as ordered (or desired).		etc.

	VELOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	1
	GENERAL	REASONING	1
	WORKER	INSTRUCTIONS	1
		%	80
	<b>FATION</b>	THINGS	1
	EL AND ORIENT	%	5
3.16	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1
111.C.16	WORKER	%	15
TASK CODE:		DATA	1

	The second secon	
		Navigate through (maneuver in) restricted waters as required in order to reach
TASK CODE:	111.C.16	GUAL destination safely and expeditiously.
ORIECTIVE.	Identify and respon	identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and
	groundings while s	groundings while simultaneously maintaining position within the limitations of the restricted waterway
	when some emergency arises,	y arises.

TASK: Sounds ship's whistle and displays required identification/signals/flags in accordance with Rules of the Road, in order to maneuver in restricted waters safely and according to proper procedure.

	PERFORMANCE STANDARDS	TRAINING CONTENT
A	Descriptive:	Functional:
•	Correctly operates whistle and displays appropriate signal flags.	<ul> <li>How to operate ship whistle.</li> <li>How to identify and use signal flags.</li> </ul>
•	Operation of whistle and displaying of flags is timely to changing course or ordering engines astern.	<ul> <li>Knowledge of Rules of the Road pertaining to whistle and flag signals.</li> </ul>
21 •	Numerical:  In 100% of the cases, all appropriate whistle signals are sounded.	Specific:  • Knowledge of location of whistle controls (automatic and manual) and other day signals on particular ship.
•	In 100% of the cases, all other appropriate day signals are displayed.	

Goal IV: Navigate through (maneuver in) non-restricted waters as required in order to reach destination safely and expeditiously.

Objective IV.A: Maintain designated track and speed within non-restricted waterway in order to avoid rammings and groundings

	VELOPMENT	LANGUAGE	3
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	3
	GENERA	REASONING	3
	WORKED	INSTRUCTIONS	3
		%	20
	FATION	THINGS	14
	AND ORIEN	%	5
1	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A .
IV.A.1	WORKER	%	75
TASK CODE:		DATA	2

TASK CODE: IV.A.1 GOAL: reach destination safely and expeditionsly.  OBJECTIVE: Maintain destinates and sneed within non-restricted waterway in order to avoid namnings and groundings.
170 H

TASK: Studies intended track, using appropriate navigational charts and publications, in order to acquaint self with conditions along route, prevailing environmental situation, aids to navigation, and potential navigational hazards.

	PERFORMANCE STANDARDS	TRAINING CONTENT
E.	Descriptive:	Functional:
132	• Charts and publications are adequately studied.	<ul> <li>How to read and interpret navigational charts and publications.</li> </ul>
	Is thoroughly familiar with intended track, prevailing environmental situation, aids to navigation, potential navigational hazards, and annifeshio navigation rules.	<ul> <li>How to relate charts to actual physical environment.</li> </ul>
	and practices.	Specific:
	Numerical:	• Knowledge of particular route, its aids to mavigation
	• In 100% of the cases, all relevant data are ascertained as dictated by the particular situation.	gation rules and practices, and prevailing environ- mental conditions for that particular segment of route.

	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	L AND ORIEN	TATION			GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	ELOPMENT
DATA	%	PEOPLE	%	THINGS	%	WORKER	REASONING	МАТН	LANGUAGE
2	70	IA .	5	1A	25	3	3	-	1
TASK CODE:	IV.A.2		GOAL: rea	rigate throug ch destinati	h (maneuv	Navigate through (maneuver in) non-restricted waters reach destination safely and expeditiously.		as required in order	er to
OBJECTIVE:	Maintain	Maintain designated track	track and	speed withi	n non-res	and speed within non-restricted waterway in order to		avoid rammings and	groundings
TASK: V	isually sc detect and	Visually scans the waters surrounding the to detect and identify navigational hazards	ters surro		intended tr and aids to	track (course) utiliz to navigation.	utilizing the naked eye and binoculars	eye and binoco	ulars in
		PERFORMANCE STANDAR	SE STANDARDS				TRAINING CONTENT	VTENT	
Descriptive	ve:					Functional:			
Thoro	Thoroughly scan	scans the surrounding waters	unding wa	ters.		• How to use binoculars.	loculars.		
• Accur navig	Accurately and navigation and	and promptly identifies and navigational aids.		various aids	ţ	• How to visually recognize h debris, shallow water, etc.	How to visually recognize hazards such as floating debris, shallow water, etc.	ards such as	floating
Numerical:						• How to visuall	How to visually recognize various aids to navigation	clous aids to	navigation
In 10 and a fied.	In 100% of the cases, and all navigational b	cases, all ional hazar	necessary ds are de	In 100% of the cases, all necessary navigational aids and all navigational hazards are detected and identified.	l aids denti-	house, ranges, etc.	etc.		100
						Knowledge of n their particul	Knowledge of navigational aids along the track, their particular characteristics.	is along the	track, and
						<ul> <li>Knowledge of speci particular locale.</li> </ul>	Knowledge of special hazards to navigation known in particular locale.	to navigation	a known in

	VELOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	3
	GENERAI	REASONING	3
	WORKER	INSTRUCTIONS	E
		%	40
	IENTATION	THINGS	3A
	AND ORIENT	%	5
3	WORKER FUNCTION LEVEL AND ORI	PEOPLE	1A
IV.A.3	WORKER	%	55
TASK CODE:		DATA	2

TASK CODE:	IV.A.3	GOAL:	 te th	rough	Navigate through (maneuver in) non-restricted waters as required in order to reach destination safely and expeditiously.	er in)	non-	restri tiousl	cted y.	water	s as	requir	ed in	order	to	
OBJECTIVE:	Maintain designated track	track	peed	vithin	non-re	strict	ed wa	terway	ţn c	rder	to av	old ra	mmings	and	and speed within non-restricted waterway in order to avoid rammings and groundings.	. sgr

Operates the radar and fathometer in order to detect and identify navigational hazards and aids to navigation. TASK:

	PERFORMANCE STANDARDS	TRAINING CONTENT
F 1	Descriptive:	Functional:
34	<ul> <li>Selects the optimum combination of range scales,</li> </ul>	• How to manipulate radar unit, i.e., vary range scales,
	sector search, intensity, etc., for the most accurate	sector search selector, intensity, range and bearing
	and prompt detection of navigational hazards and aids	circles and lines, true or relative motion mode, etc.
	to navigation.	<ul> <li>How to manipulate fathometer unit, i.e., vary depth</li> </ul>
	Accurately detects various aids to navigation and	scale, intensity, etc.
	May salional mazards on radar.	now to detect navigational nazards and aids to navi-
	fathometer.	garious on rawar and rathometer:  How to identify navieational hazards and aids to navi-
		oation on radar and fathometer.
	Numerical:	0
		Specific:
	• In 100% of the cases, all necessary navigational aids	
	and all navigational hazards are detected.	. Knowledge of navigational aids along track, or man-
		made and geophysical characteristics which present
		good radar targets.
		<ul> <li>Knowledge of special hazards known along route which</li> </ul>
		present radar targets.
		<ul> <li>Knowledge of individual ship's particular radar unit.</li> </ul>
		<ul> <li>Knowledge of individual ship's particular fathometer</li> </ul>
		unit.

	VELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	7
	GENERA	REASONING	3
	a d X a C W	INSTRUCTIONS	3
		%	35
	TATION	THINGS	2A
	AND ORIEN	%	5
	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1.4
IV.A.4	WORKER	%	09
TASK CODE:		DATA	3A

TASK CODE:	IV.A.4	GOAL Navigate through (maneuver in) non-restricted waters as required in order to
OBJECTIVE:	Maintain designated track	d track and speed within non-restricted waterway in order to avoid rammings and groundings.
TASK: Vis stadimete the area,	TASK: Visually determines ranges to stadimeter, alidade, and pelorus, as the area, in order to establish ship	anges to and bearings of fixed aids to navigation (reference points), if available, using lorus, as appropriate, following standard procedures, and plots those readings on chart of lish ship's navigational position.

stadimeter, alidade, and pelotus, as appropriate, following standard procedures, and plots those readings on chart of the area, in order to establish ship's navigational position.			
~ 00	10		
~ w	chart		
~ w	CIO		
~ w	readings		
~ w	rnose		
~ w	prote		
~ w	and		
~ w	procedures,		
~ w	Wing standard	sition.	
~ w	10110	al pos	
~ w	appropriate,	s navigation	
0.	S	hip	
the area, in order to est	berorus,		
the area, in order to	and	est	
the area, in	tingade,	order to	
the area,	L , 0	ţu	
n 11	ad Imere	ne area,	
	'n	T	-

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
Properly utilizes instruments.	• How to select reference points for ranges and bearings.
Accurately reads ranges and bearings off instruments.	• How to use stadimeter, alidade, and pelorus.
• Precisely transposes those readings to charts.	• How to transpose instrument readings to navigational
Numerical:	Specific:
• In 100% of the cases, ranges and bearings are determined and readings transposed to charts within acceptable limits commensurate with ship speed, channel configura-	70
tion and limitations, and prevailing environmental situation along route.	

	GENERAL EDUCATIONAL DEVELOPMENT	TH LANGU	2
	RAL EDUCATI	MATH	3
	GENE	REASONING	3
	WORKER	INSTRUCTIONS	E
		%	50
	TATION	THINGS	3A
	VEL AND ORIENTATION	%	5
	WORKER FUNCTION LEVEL	PEOPLE	1A
IV.A.5	WORKER	%	45
TASK CODE:		DATA	38

UAGE

	The second secon	
TASK CODE:	IV.A.5	60AL: reach destination safely and expeditiously.
DOIE CTIVE.		

Maintain designated track and speed within non-restricted waterway in order to avoid rammings and groundings.

Operates and takes readings from RDF, loran, Decca, and radar, from fathometer, and from Omega and satellite navigator, in order to determine lines of position, water depths, and navigational positions, respectively. TASK

	PERFORMANCE STANDARDS		TRAINING CONTENT
Des	Descriptive:	P. un	Functional:
•	Selects the optimum system or combination of systems for most accurate and prompt acquisition of informa-	•	How to select appropriate navigational system.
	tion,	•	How to operate and take ranges, bearings, and dreadings from selected navioational system
•	Accurately reads selected system output and precisely transposes those data to charts.	•	How to transpose those readings to navigational

1 charts.

depth

Knowledge of availability and reliability of various

which present good radar targets.

electronic navigational systems along route.

Knowledge of those fixed aids to navigation or man-made and geophysical characteristics along route

Specific:

In 100% of the cases, ranges and bearings are determined and are within acceptable limits commensurate

Numerical:

with ship speed, channel configuration and limitations, and prevailing environmental situation along

TASK CODE:	IV.A.6	9							
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIENT	ATION		03,00%	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
2	75	1A	5	IA	20	2	2	3	3

-	The state of the last of the l			
TASK CODE:	IV.A.6	GOAL:	Al: Navigate through (maneuver in) non-restricted waters as required in order to reach destination safely and expeditiously.	to
OBJECTIVE:	Maintain designated track	track	rack and speed within non-restricted waterway in order to avoid rammings and groundings.	roundings.

TASK: Monitors wind direction and speed indicators, and obtains/reviews information on currents and wave height and direction, in order to ascertain wind, current, and wave conditions. TASK

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
• Correctly reads all instruments.	How to read wind speed and direction indicators.
<ul> <li>Routinely ascertains pre-calculated current data along track.</li> </ul>	• How to visually estimate wave height and direction.
<ul> <li>Reliably estimates wave height and direction.</li> </ul>	Where to obtain current data.
Numerical:	Specific:
To 100% of the second and sheementdown and	• Knowledge of prevailing environmental conditions along
within acceptable limits in accordance with particular situation.	expected values.

	/ELOPMENT	LANGUA	2
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	2
	GENERAL	REASONING	1
	MODER	INSTRUCTIONS	2
		%	10
	TATION	THINGS	1A
	AND ORIENT	%	5
,	NORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
IV.A.	WORKER	%	85
I ASK CODE:		DATA	1

	/ELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	2
	GENERAL	REASONING	2
	WORKER	INSTRUCTIONS	3
		%	10
	ATION	THINGS	28
	AND ORIENT	%	2
80	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
IV. A. 8	WORKER	%	85
ASK CODE:		DATA	2

2	85	1A	5	2B	10	6	2	2	2	
TASK CODE:	IV.A.8		GOAL: Teach	sate through	(maneuver	Navigate through (maneuver in) non-restricted waters	as	required in order	to	1
OBJECTIVE:	Maintain	designated	track and	speed withi	n non-res	Maintain designated track and speed within non-restricted waterway in order to avoid rammings and	order to avoid	d rammings and	groundings.	<b></b>
TASK: Mon maintain	TASK: Monitors voice maintain radio watch.	ce radio (br	1dge-to-br	ridge and/or	ship-to-s	Monitors voice radio (bridge-to-bridge and/or ship-to-shore) and internal communication systems in order to ain radio watch.	communication	systems in ord	der to	<del></del>
		PERFORMANC	PERFORMANCE STANDARDS				TRAINING CONTENT	INTENT		-
Descriptive:	:ve:					Functional:				
• Is at	tentive to	Is attentive to all voice radio traffic.	radio traf	ffic.		How to operate various radio frequency (rf) equipment.	various radio	frequency (rf	f) equipment.	
• Effic to ov	iently mor	Efficiently monitors all c to own ship and situation.	communicati	Efficiently monitors all communications applicable to own ship and situation.	ole	• Knowledge of voice radio communication procedures.	oice radio com	munication pro	ocedures.	
Numerical:	••					Specific:				
oI uI •	0% of the	In 100% of the cases, all pertinent	pertinent communi	communications	suc	Knowledge of availability of various rf networks along route.	vailability of	various rf ne	etworks	
, , , , , , , , , , , , , , , , , , ,	•		alla ackilow	יובת פפת		• Knowledge of specific rf equipment provided on particular ship.	pecific rf equ	ipment provide	ed on par-	
										_

TASK CODE:	IV.A.	6						
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIEN	TATION		anyaow	GENERA	GENERAL EDUCATION
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MA
58	06	18	5	14	5	νn	9	

LANGUAGE

IONAL DEVELOPMENT

3

	Navigate through (maneuver in) non-restricted waters as required in order to	
	naters as require	
	non-restricted w	reach destination safely and expeditiously.
	(maneuver in)	on safely and e
	avigate through	each destination
	N	GUAL: r
1	-	-
	0 4 111	1V.A.9

#### OBJECTIVE:

Maintain designated track and speed within non-restricted waterway in order to avoid rammings and groundings.

Examines and evaluates total data input concerning environmental situation, own ship's characteristics, status of onboard equipment, and own ship's mission (purpose and goals), in order to determine course of action to maintain desired track and speed. TASK

	TRAINING CONTENT
תבסוובת רומרא מוות סלובתי	PERFORMANCE STANDARDS

#### Descriptive:

## Anticpates any and all possibilities which may arise.

- Continually maintains mental alertness, i.e., is vigilant.
- Maintains sense of proportion among input data and various action options as situation changes or progresses.
  - Makes decision in timely manner commensurate with situation.

#### Numerical:

In 100% of the cases, all pertinent data are examined and evaluated in accordance with the particular situation before decision is reached.

#### Functional:

Understands interrelationships which exist among ship, ancilliary equipment, and environmental factors as they relate to ship controllability.
 Specific:

 Knowledge of specific ship's hydrodynamic characteristics as they may be affected by prevailing environmental conditions along route and the seasonal

## Knowledge of particular ship's ancilliary equipment as it affects ship hydrodynamics and as it may be affected by varying local environmental conditions.

variations of those environmental conditions through

the range of expected values.

TASK CODE:	IV.A.10	.10							
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIEN	TATION		MOBYED	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUA
2	5	2	06	10	5	3	7	1	2

TASK CODE:	IV.A.10	GOAL: Navigare through (maneuver in) non-restricted waters as required in order to reach destination safely and expeditiously.
OBJECTIVE:	Maintain designated trac	track and speed within non-restricted waterway in order to avoid rammings and groundings.
TASK	TASK: Conserve and anti-depth on June	and the state of t

s to other bridge personnel and verifies their comprehension, utilizing standard pro-	
their co	
verifies	control
and	ship
Conveys navigation orders to other bridge personnel	edures and phraseology, in order to execute decisions for ship control
TASK	cedu

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
<ul> <li>Is precise and timely in conveying navigational orders.</li> </ul>	s. How to phrase navigational orders.
• Ensures full understanding of order by other bridge personnel before, during, and after its execution.	Specific:
Numerical:	conditions.
In 100% of the cases, orders are understood by appropriate bridge personnel.	

	/ELOPMENT	LANGUAGE	1	
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	1	
	GENERAL	REASONING	1	
	assacm	INSTRUCTIONS	1	
		%	50	
	ATION	THINGS	18	
	AND ORIENT	%	5	
1	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	IA	
IV.A.11	WORKER	*	45	
ASK CODE:		DATA	2	

2	45	1A	5	18		20	1	1	1		1
TASK CODE:	IV.A.11	11	GOAL: rea	Navigate through (maneuver in) reach destination safely and e	ugh (r tion s	naneuver safely a	Navigate through (maneuver in) non-restricted waters reach destination safely and expeditiously.		as required in order	er to	
OBJECTIVE:	Maintain	des1gnated	1 track and	d speed will	thin n	on-rest	Maintain designated track and speed within non-restricted waterway in order to avoid rammings and groundings	order to avoic	i rammings and	d ground	lings.
TASK: Ad	justs RPI al commun	ASK: Adjusts RPM or pitch (if cont or internal communications circuits,	(if controlisting)	ollable) of ship's propeller(s) in order to change ship's speed	f ship	's prop	Adjusts RPM or pitch (if controllable) of ship's propeller(s) utilizing engine order telegraph, bridge throttles, rnal communications circuits, in order to change ship's speed.	engine order t	elegraph, bri	ldge thr	ottles,
		PERFORMAN	PERFORMANCE STANDARDS	SI				TRAINING CONTENT	UNTENT		
Descriptive:	ve:						Functional:				
• Exped effec	Expeditiously and aceffect speed change.	Expeditiously and accurately manipulates equipment to effect speed change.	itely mani	pulates equ	uipmen	t to	How to operate     and communica	How to operate engine order telegraph, bridge throttles, and communications circuits.	telegraph, b	oridge t	hrottles,
Numerical:	••						Specific:				
• In 10 as or	100% of the ordered (or	In 100% of the cases, all adjustments are made exactly as ordered (or desired).	ll adjustme	ents are me	ade ex	actly	• Special characequipment.	Special characteristics and location of $own\ ship's\ equipment.$	location of	own shi	s, d

TASK CODE:	IV.A.12	12							
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	. AND ORIENT	FATION		asyaow	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
2	45	1A	20	10	50	2	1	1	2

The second secon				The second secon		The second secon	The second secon		The second secon	The second second				
TASK CODE:	IV.A.12	GOAL:	Navigat	e thro	ngh (m	aneuver	ou (ui	Navigate through (maneuver in) non-restricted waters as required in order to	ed wate	rs as	required	I in or	der to	
			reach a	escilla	CTOH S	alely	adxa pur	reach destination salery and expeditiously.						
OBJECTIVE:	Maintain designated track and speed within non-restricted waterway in order to avoid rammings and	ated tr	ack and	speed	withi	n non-r	estricte	ed waterway	, in or	der to	avoid r	ammulus	s and	
groundings.	•											•		

TASK: Turns ship's helm and reads compasses (gyro and magnetic) and rate of turn indicators (if provided) in order to change or maintain course.

 PERFORMANCE STANDARDS	TRAINING CONTENT
 Descriptive:	Functional:
<ul> <li>Routinely and accurately manipulates helm to change or maintain course.</li> </ul>	<ul> <li>How to operate a helm.</li> </ul>
 Continuously monitors compass rudder and a and rate	• How to read a compass.
 of turn indicator.	How to read a rudder angle indicator and a rate of
 Numerical:	turn indicator.
 In 100% of the cases, all readings of instrumentation	<ul> <li>How to detect drift off desired heading.</li> </ul>
 are within acceptable limits in accordance with particular situation.	Specific:
 <ul> <li>In 100% of the cases, all helm adjustments are made exactly as ordered (or desired).</li> </ul>	<ul> <li>Knowledge of specific ship's handling characteristics,</li> <li>1.e., rudder rate, lateral stability, rate of turn,</li> <li>etc.</li> </ul>

	ELOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
	GENERAL	REASONING	П
	WORKER	INSTRUCTIONS	1
		%	80
	TATION	THINGS	1
	AND ORIENT	%	5
.13	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1
IV.A.13	WORKER	%	15
TASK CODE:		DATA	1

TASK CODE:	IV.A.13	GOAL:	Navigate through (maneuver in) non-restricted waters as required in order to reach destination safely and expeditiously.
OBJECTIVE:	Maintain design groundings.	nated t	Maintain designated track and speed within non-restricted waterway in order to avoid rammings or groundings.

TASK: Sounds ship's whistle and displays required identification/signals/flags in accordance with Rules of the Road, in order to maneuver in non-restricted waters safely and according to proper procedure.

Desci		
• •	Descriptive:	Functional:
	Correctly operates whistle and displays appropriate signal flags.  Operation of whistle and displaying of flags is timely to changing course or ordering engines astern.	<ul> <li>How to operate ship whistle.</li> <li>How to identify and use signal flags.</li> <li>Knowledge of Rules of the Road pertaining to whistle and flag signals.</li> </ul>
Nume	Numerical:  In 100% of the cases, all appropriate whistle signals are sounded.  In 100% of the cases, all other appropriate day	<pre>Specific:     Knowledge of location of whistle controls (automatic     and manual) and other day signals on particular ship.</pre>
	signals are displayed.	

Objective IV.B: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings (non-restricted waterway environment)

	VELOPMENT	LANGUAGE	8
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	3
	GENERA	REASONING	3
	MORKER	INSTRUCTIONS	3
		%	20
	TATION	THINGS	1A
	AND ORIENT	%	5
1	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
IV.B.1	WORKER	%	75
TASK CODE:		DATA	2

TUR I RAVIGATE through (maneuver in) non-restricted waters as required in order to	Man cour.
d in order to	

Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings (non-restricted waterway environment). OBJECTIVE

FASK: Studies intended track, using appropriate navigational charts and publications, in order to acquaint self with conditions along route, prevailing environmental situation, aids to navigation, and potential navigational hazards. TASK

	PERFORMANCE STANDARDS	TRAINING CONTENT
	Descriptive:	Functional:
14	<ul> <li>Charts and publications are adequately studied.</li> </ul>	<ul> <li>How to read and interpret navigational charts and</li> </ul>

# Is thoroughly familiar with intended track, prevailing environmental situation, aids to navigation, potential navigational hazards, and applicable navigation rules and practices.

#### Numerical:

In 100% of the cases, all relevant data are ascertained as dictated by the particular situation.

ite, its aids to navigation	hazards, applicable navi-	and prevailing environ-	mental conditions for that particular segment of route.
<ul> <li>Knowledge of particular route, its aids to navigation</li> </ul>	and potential navigational hazards, applicable navi-	gation rules and practices, and prevailing environ-	mental conditions for that

How to relate charts to actual physical environment.

Specific:

publications.

	VELOPMENT	LANGUA	1
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
	GENERA	REASONING	3
	WORKER	INSTRUCTIONS	3
		%	25
	TATION	THINGS	1A
	AND ORIENT	%	5
7	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A .
IV.B.2	WORKER	%	70
TASK CODE:		DATA	2

LANGUAGE

TASK CODE:	IV.B.2	GOAL:	Navigate through (maneuver in) non-restricted is reach destination safely and expeditiously.	through stination	(maneuv n safely	rer in) rande:	non-re	stricted ously.	waters	Navigate through (maneuver in) non-restricted waters as required in order to reach destination safely and expeditiously.	ed in o	rder t	0
OBJECTIVE:	OBJECTIVE: Identify and respond to	espond to	potentially environment	11y hazan	rdous co	ndition	o ui sı	rder to	avoid c	ollisions,	rammir	ngs, a	potentially hazardous conditions in order to avoid collisions, rammings, and ground-environment).

TASK: Visually scans the waters surrounding the intended track (course) utilizing the naked eye and binoculars in order to detect and identify navigational hazards and aids to navigation.

	PERFORMANCE STANDARDS	TRAINING CONTENT
	Descriptive:	Functional:
	Thoroughly scans the surrounding waters.	• How to use binoculars.
	Accurately and promptly identifies various aids to navigation and navigational hazards.	• How to visually recognize hazards such as floating debris, shallow water, etc.
~1	Numerical:	How to visually recognize various aids to navigation
	In 100% of the cases, all necessary navigational aids	house, ranges, etc.
		Specific:
		<ul> <li>Knowledge of navigational aids along the track, and their particular characteristics.</li> </ul>
		<ul> <li>Knowledge of special hazards to navigation known in particular locale.</li> </ul>

	/ELOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	3
	GENERAL	REASONING	3
	WORKER	INSTRUCTIONS	3
		%	40
	TATION	THINGS	3A
	AND ORIENT	%	5
3	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
IV.B.3	WORKER	%	55
TASK CODE:		DATA	2

TASK CODE:	IV.B.3 GOAL:	Navigate through (maneuver in) non-restricted waters as required in order to 60AL: reach destination safely and expeditiously.
OBJECTIVE:	: Identify and respond to potentially hazardou (non-restricted waterway environment).	Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings (non-restricted waterway environment).

Operates the radar and fathometer in order to detect and identify navigational hazards and aids to navigation. TASK

TRAINING CONTENT	Functional:  How to manipulate radar unit, i.e., vary range scales, sector search selector, intensity, range and bearing circles and lines, true or relative motion mode, etc.  How to manipulate fathometer unit, i.e., vary depth scale, intensity, etc.  How to detect navigational hazards and aids to navigation on radar and fathometer.  How to identify navigational hazards and aids to navigation on radar and fathometer.  Specific:  Knowledge of navigational aids along track, or manmade and geophysical characteristics which present good radar targets.  Knowledge of special hazards known along route which present argest targets.	Knowledge of individual ship's particular radar unit.  • Knowledge of individual ship's particular fathometer unit.
PERFORMANCE STANDARDS	• Selects the optimum combination of range scales, sector search, intensity, etc., for the most accurate and prompt detection of navigational hazards and aids to navigation. • Accurately detects various aids to navigation and navigational hazards on radar. • Accurately detects any navigational hazards on fathometer.  Numerical: • In 100% of the cases, all necessary navigational aids and all navigational hazards are detected.	

TASK CODE:	IV.B.4								
	WORKER	VORKER FUNCTION LEVEL AND ORIENTATION	AND ORIENT	TATION		WORKER	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	BEASONING	МАТН	LANGUAGE
3A	09	1A .	5	2A	35	3	3	7	2

the same of the sa	The state of the s	The state of the s	The same of the sa			-	The second secon	The state of the s	The second secon	The second secon	Control of the Contro	The second second second	And in contrast of the last of	The second second	Samuel Salar	The state of the s
TASK CODE:	IV.B.4	GOAL:	Navigate through (maneuver in) non-restricted waters as required in order to reach destination safely and expeditiously.	dest1	rough	(maneu	ver ir	non (r	-rest	ricted sly.	i wate	rs as	require	ut p	order	to
OBJECTIVE:	OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings (non-restricted waterway environment).	nd to	potenti	ally	hazard	ons co	nditio	ns in	orde	r to	void o	01116	ions, r	ammin	gs, an	d groundings

TASK: Visually determines ranges to and bearings of fixed aids to navigation (reference points), if available, using stadimeter, alidade, and pelorus, as appropriate, following standard procedures, and plots those readings on chart of the area, in order to establish ship's navigational position.

utilizes instruments.  ly reads ranges and bearings off instruments.  y transposes those readings to charts.  of the cases, ranges and bearings are determined ings transposed to charts within acceptable ormansurate with ship speed, channel couffguralimitations, and prevailing environmental sithong route.	TPAINING CONTENT	nal:	How to select reference points for ranges and bearings.	How to use stadimeter, alidade, and pelorus.	How to transpose instrument readings to navigational		:-	Knowledge of fixed aids to navigation along route.					
relptive:  Properly utilizes instruments.  Accurately reads ranges and bearings off instruments.  Precisely transposes those readings to charts.  erical:  In 100% of the cases, ranges and bearings are determined and readings transposed to charts within acceptable limits commensurate with ship speed, channel couffguration and limitations, and prevailing environmental situation along route.		Functional:	• How	• How	• How		Specific:	• Kno					
l les	DERECORMANCE CTANDARDS	Descriptive:	Properly utilizes instruments.	Accurately reads ranges and bearings off instruments.	Precisely transposes those readings to charts.	Numerical:	In 100% of the cases, ranges and bearings are determined	and readings transposed to charts within acceptable	tion and limitations, and prevailing environmental sit-	uation along route.			

	VELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	3
	GENERA	REASONING	3
	WORKER	INSTRUCTIONS	3
		%	20
	LATION	THINGS	3A
	AND ORIENT	%	5
2	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
IV.B.5	WORKER	%	45
TASK CODE:		DATA	38

Navigate through (maneuver in) non-restricted waters as required in order to reach destination safely and expeditiously,	Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings and groundings (non-restricted waterway environment).
60AL: Navigate through reach destination	dentify and respond to potentially hazard non-restricted waterway environment).
IV.B.5	Identify an (non-restri
TASK CODE:	OBJECTIVE: ]

FASK: Operates and takes readings from RDF, loran, Decca, and radar, from fathometer, and from Omega and satellite navigator, in order to determine lines of position, water depths, and navigational positions, respectively. TASK:

TRAINING CONTENT	Functional:	• How to select appropriate navigational system.	• How to operate and take ranges, bearings, and depth readings from selected navigational system.	How to transpose those readings to navigational charts	Specific:	• Knowledge of those fixed aids to navigation or man- made and geophysical characteristics along route which present good radar targets.	• Knowledge of availability and reliability of various electronic navigational systems along route.	
PERFORMANCE STANDARDS	Descriptive:	Selects the optimum system or combination of systems for most accurate and prompt acquisition of informa-	tion.	transposes those data to charts.	Numerical:	In 100% of the cases, ranges and bearings are determined and are within acceptable limits commensurate with ship speed, channel configuration and limitations.	route.	

	VELOPMENT	LANGUAGE	3
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	3
	GENERA	REASONING	2
	BYBOW	INSTRUCTIONS	2
		%	20
	TATION	THINGS	1A
	AND ORIENTATION	%	5
9	WORKER FUNCTION LEVEL AND	PEOPLE	1A
IV.B.6	WORKER	%	75
TASK CODE:		DATA	2

TASK CODE:	IV.B.6	GOAL:	Navigate through (maneuver in) non-restricted waters as required in order to reach destination safely and expeditiously.
OBJECTIVE:		nd to 1	Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings
	(non-restricted waterway environment).	terway	environment).

and	
eight	
ve h	
nd wa	
its a	
d speed indicators, and obtains/reviews information on currents and wave height and	
on c	
tion	
orma	
s inf	
view	· SI
ns/re	itior
btai	cond
and c	wave
ers,	n wind, current, and wave condition
icato	ent,
1 Ind	curr
speed	fud,
and	ain w
tion	cert
direc	to as
s wind direct	n order to asceri
ors w	in or
fonit	ion,
£	recti
TAS	di

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-15	Descriptive:	Functional:
1	• Correctly reads all instruments.	<ul> <li>How to read wind speed and direction indicators.</li> </ul>
	<ul> <li>Routinely ascertains pre-calculated current data along track.</li> </ul>	<ul> <li>How to visually estimate wave height and direction.</li> </ul>
	• Reliably estimates wave height and direction.	<ul> <li>Where to obtain current data.</li> </ul>
	Numerical:	Specific:
	• In 100% of the cases, readings and observations are within acceptable limits in accordance with particular	<ul> <li>Knowledge of prevailing environmental conditions along route and seasonal variations throughout the range of expected values.</li> </ul>
	situation.	

	ELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	2
	GENERA	REASONING	1
	WORKER	INSTRUCTIONS	2
		%	10
	TATION	THINGS	1A
	AND ORIENTATION	%	5
7	WORKER FUNCTION LEVEL AND	PEOPLE	1A ·
IV.B.7	WORKER	%	85
TASK CODE:		DATA	1

	Navigate through (maneuver in) non-restricted waters as required in order to
TASK CODE: IV.B./ GOAL: reach destination safely and expeditiously.	d expeditionsly.
OBJECTIVE: Identify and respond to potentially hazardous condition-restricted waterway environment).	Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings (non-restricted waterway environment).
Reads dials of instruments such as compass, rudder angle indicator, throttle position indicator, speed indicator, and RPM indicator; visually scans steering and propulsion system status indicators; looks and listens for steering machinery and propulsion system audio and visual failure alarms, in order to ascertain heading, speed, rudder angle, and propeller speed, and to monitor operating conditions of steering and propulsion systems.	Reads dials of instruments such as compass, rudder angle indicator, throttle position indicator, speed indicator, and indicator; visually scans steering and propulsion system status indicators; looks and listens for steering ery and propulsion system audio and visual failure alarms, in order to ascertain heading, speed, rudder angle, and ler speed, and to monitor operating conditions of steering and propulsion systems.
PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
<ul> <li>Correctly reads and surveys all instrumentation.</li> </ul> Numerical:	<ul> <li>How to read compass, rudder angle indicator, throttle position indicator, speed indicator, and RPM indicator.</li> </ul>
• In 100% of the cases, readings and observations are	<ul> <li>How to monitor steering and propulsion system status indicators.</li> </ul>
situation.	Specific:
	<ul> <li>Knowledge of location, arrangement, and characteristics of particular indicators, displays, and alarms on specific ship.</li> </ul>

	VELOPMENT	LANGUAGE	7
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	2
	GENERAL	REASONING	2
	asyaum	INSTRUCTIONS	3
		%	10
	TATION	THINGS	28
	AND ORIENTATION	%	5
	NORKER FUNCTION LEVEL	PEOPLE	1A ·
14.6.0	WORKER	×	85
TASK CODE:		DATA	2

TASK CODE:	IV.B.8	GOAL:	Navigate through (maneuver in) non-restrictor reach destination safely and expeditiously.	te thi lestir	rough lation	(maner safel	iver f y and	n) noi expe	n-rest ditiou	ricte sly.	d wate	rs as	requi	Navigate through (maneuver in) non-restricted waters as required in order to reach destination safely and expeditiously.	order	to	
OBJECTIVE:	Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings (non-restricted waterway environment).	nd to p	ootentially ha environment).	ally nment	hazard ).	one co	onditi	ons in	n orde	ir to	avoid	co111	sions,	rammin	gs, ar	nd gro	undings

TASK: Monitors voice radio (bridge-to-bridge and/or ship-to-shore) and internal communication systems in order to maintain radio watch.

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-153	Descriptive:	Functional:
,	<ul> <li>Is attentive to all voice radio traffic.</li> </ul>	<ul> <li>How to operate various radio frequency (rf) equipment.</li> </ul>
	• Efficiently monitors all communications applicable to own ship and situation.	<ul> <li>Knowledge of voice radio communication procedures.</li> </ul>
	Numerical:	Specific:
	• In 100% of the cases, all pertinent communications	<ul> <li>Knowledge of availability of various rf networks along route.</li> </ul>
	are detected, understood, and acknowledged.	<ul> <li>Knowledge of specific rf equipment provided on particular ship.</li> </ul>
_		

	VELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	2
	GENERAI	REASONING	2
	WORKER	INSTRUCTIONS	2
		%	45
	FATION	THINGS	2B
	AND ORIENT	%	5
6	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
IV.B.9	WORKER	%	50
TASK CODE:		DATA	1

L		Navigate through (maneuver	Navioste through (manauver in) non-restricted waters as required in order to
-	TASK CODE: IV.B.9	60AL: reach destination safely and expeditiously.	and expeditiously.
0	OBJECTIVE: Identify and respond to potentially ha (non-restricted waterway environment).	to potentially hazardous conditrway environment).	Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings (non-restricted waterway environment).
-	TASK: Monitors collision avoid	ance system (visual and electro	Monitors collision avoidance system (visual and electronic) in order to detect other vessel traffic in vicinity.
	PERFORMANCE STANDARD	STANDARDS	TRAINING CONTENT
-1	Descriptive:		Functional:
	<ul> <li>Thoroughly scans the surro and electronically.</li> </ul>	Thoroughly scans the surrounding waters both visually and electronically.	• How to visually recognize other vessel traffic.
			<ul> <li>How to operate electronic collision avoidance system.</li> </ul>
	<ul> <li>Promptly and accurately detects other vessel traffic in vicinity.</li> </ul>	tects other vessel traffic	Specific:

Knowledge of prevailing traffic patterns along route, including seasonal variations.

Knowledge of individual ship's specific electronic collision avoidance system.

In 100% of the cases, all other vessel traffic in vicinity is detected.

Numerical:

	VELOPMENT	LANGUAGE	7
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	7
	GENERA	REASONING	5
	WORKER	INSTRUCTIONS	7
		%	10
	DRIENTATION	THINGS	1.8
	AND ORIENT	*	5
01	WORKER FUNCTION LEVEL AND O	PEOPLE	. VI
IV.B.10	WORKER	*	85
TASK CODE:		DATA	7

TASK CODE:	IV.B.10 GOAL:	Navigate through (maneuver in) non-restricted waters as required in order to reach destination safely and expeditiously.
OBJECTIVE:	/E: Identify and respond to potentially hazardous (non-restricted waterway environment).	Identify and respond to potentially hazardous condtions in order to avoid collisions, rammings, and groundings (non-restricted waterway environment).

he	
determine t	
to	
order	
in	
situation	
.1 other vessel traffic in vicinity and navigational situation in order to determine the	ard.
an	haz
n vicinity	any real or potential collision hazard
c t	al
traffi	otenti
se1	or I
ves	al
er	re
oth	any
111	of
Assesses	existence
TASK:	

	TRAINING CONTENT	
The state of the s	PERFORMANCE STANDARDS	

#### Descriptive:

- Accurately determines the course, speed, closest point of approach (CPA), time to closest point of approach (TCPA) of all threatening traffic in vicinity.
- Properly ascertains the governing Rules of the Road and considers any other restraints imposed upon own ship or other traffic by applicable navigation rules and practices, if provided.
- Anticipates possible actions by threatening traffic which may dictate reassessment of situation.
- Makes assessment in timely manner commensurate with situation.

#### Numerical:

In 100% of the cases, all pertinent traffic data are assessed for potential collision hazard.

#### Functional:

- Understands principles of relative motion.
- How to determine course, speed, CPA and TCPA of all other vessels.
- limitations they impose upon his ship in determining Understands applicable Rules of the Road and the potential collision hazard and possible counter action.

#### Specific:

- Knowledge of prevailing traffic patterns along route including seasonal variations.
- Knowledge of applicable navigation rules and practices, if provided.

IV.B.11
TASK CODE:

	IENT	
	GENERAL EDUCATIONAL DEVELOPMENT	
	AL EDUCATION	
	GENER	DEACOUND
The second secon	WORKER	INSTRUCTIONS
		%
The second secon	TATION	THINGS
The second secon	AND ORIENT	%
The second secon	WORKER FUNCTION LEVEL AND ORIENTATIO	PEOPLE
The second secon	WORKER	%
The second second		DATA

	red in order to		
	waters as requir		
	avigate through (maneuver in) non-restricted waters as required in order to	expeditionsly.	
The state of the s	(maneuver in	safely and	
	Navigate through	UAL: reach destination safely and expeditiously.	
	. 1403	- POAL:	
	TV R 11	11:0:11	
	TACK CODE	I ASK CODE:	

Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings (non-restricted waterway environment). OBJECTIVE:

Examines and evaluates total data input concerning environmental situation, own ship's characteristics, status of both onboard and external ancilliary equipment, collision hazards, and own ship's mission (purpose and goals), in order to determin course of action to maintain desired track and speed while simultaneously avoiding collisions,

## TRAINING CONTENT PERFORMANCE STANDARDS rammings, or groundings.

#### Descriptive:

- Anticipates any and all possibilities which may arise, especially other ships' intentions and actions.
- Continually maintains mental alertness, i.e., is vigilant.
- Maintains sense of proportion among input data and various action options as situation changes or progresses.
- Makes decision in timely manner commensurate with situation.

#### Numerical:

In 100% of the cases, all pertinent data are examined and evaluated in accordance with the particular situation before decision is reached.

#### Functional:

- Understands interrelationships which exist among ship, ancilliary equipment (both onboard and external to the ship), and environmental factors as they relate to ship controllability.
- How to use regulations, conventions, principles, Rules of the Nautical Road for navigating a ship in non-restricted waters.

#### Specific:

- Knowledge of own and other ships' hydrodynamic characteristics as they may be affected by prevailing environmental conditions along route and the seasonal variations of those environmental conditions through the range of expected values.
- Knowledge of own ship's ancilliary equipment as it affects ship hydrodynamics and as it may be affected by varying environmental conditions and other ship traffic.

TASK CODE:	IV.B.12	.12							
	WORKER	WORKER FUNCTION LEVEL	. AND ORIENTATION	TATION		WORKER	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
2	5	. 5	06	10	5	3	7	1	2

-	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIENT	TATION		WORKER	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT	
	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAGE	
	5	. 5	06	10	5	3	7	1	2	
							3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Chao at boat		1 [
TASK CODE:	IV.B.12		DAL: reach	gare rarouga destination	(maneuve n safely	GOAL: navigate inrougn (maneuver in) non-restricted waters as required in order to	waters as requ	anio ili paire	01.1	
OBJECTIVE: Ide	entify on-rest	Identify and respond to potentially ha (non-restricted waterway environment).	to poten	tially hazar ronment).	qons cond	Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings (non-restricted waterway environment).	avoid collision	s, rammings,	and groundings	
Convey	ys navi phraseo	rask: Conveys navigation orders to orderes and phraseology, in order to	6 0	ther bridge personnel execute decisions for	rsonnel a	and verifies their coship control.	their comprehension, utilizing standard pro-	tilizing star	idard pro-	Γ
		PERFORMANCE STANDARDS	STANDARDS				TRAINING CONTENT	NTENT		
Descriptive:						Functional:				
precis	se and	precise and timely in conveying navigational orders.	nveying 1	navigational	orders.	How to phrase	How to phrase navigational orders.	rders.		
Ensures f	full un	Ensures full understanding of	of order	by other	bridge	Specific:				
Numerical:						• Knowledge of b conditions.	Knowledge of bridge organization for various watch conditions.	tion for vari	lous watch	
100% opriate	of the e bridg	In 100% of the cases, orders propriate bridge personnel.	are	understood by ap-	ap-					

	LOPMENT	LANGUAGE	1	
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	1	
	GENERAL	REASONING	1	
	WORKER	INSTRUCTIONS	1	
		%	90	
	TATION	THINGS	18	
	AND ORIENT	%	5	
13	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A	
IV.B.13	WORKER	%	45	
TASK CODE:		DATA	2	

	TASK CODE: IV.B. 13	GOAL: reach destination safely and expeditiously.	Navigate through (maneuver in) non-restricted waters as required in order to reach destination safely and expeditiously.	
	OBJECTIVE: Identify and respon (non-restricted wat	Identify and respond to potentially hazardous condition-restricted waterway environment).	Identify and respond to potentially hazardous conditions in order to avoid collsions, rammings, and groundings (non-restricted waterway environment).	oundings
	TASK: Adjusts RPM or pitch (if cont or internal communications circuits,	(if controllable) of ship's propeller(s) ircuits, in order to change ship's speed.	Adjusts RPM or pitch (if controllable) of ship's propeller(s) utilizing engine order telegraph, bridge throttles, rnal communications circuits, in order to change ship's speed.	rottles,
	PERFORMANCE STANDA	NCE STANDARDS	TRAINING CONTENT	
F-1	Descriptive:		Functional:	
58	• Expeditionsly and accura effect speed change.	Expeditiously and accurately manipulates equipment to effect speed change.	• How to operate engine order telegraph, bridge throttles, and communications circuits.	throttles,
	Numerical:		Specific:	
	• In 100% of the cases, al as ordered (or desired).	In 100% of the cases, all adjustments are made exactly as ordered (or desired).	<ul> <li>Special characteristics and location of own ship's equipment.</li> </ul>	s,dT
١				

					AGNEDA	20 IAMOITATION	VELOPMENT
WORKER FUNCTION LEVEL AND ORIENTATION	DRIENT	ATION		WORKER	DENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELUT
PEOPLE %		THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUAGE
1A 20	0,	10	50	2	1	1	2

K CODE: IV.B.14 GOAL: reach destination safely and expeditiously.	OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings (non-restricted waterway environment).
TASK CODE	OBJECTIV

TASK: Turns ship's helm and reads compasses (gyro and magnetic) and rate of turn indicators (if provided) in order to change or maintain course. TASK

		STATE OF THE PERSON NAMED IN COLUMN 2 IS NOT THE OWNER, THE PERSON NAMED	
		The same of the same of the same of	

	PERFORMANCE STANDARDS	TRAINING CONTENT
Des	Descriptive:	Functional:
•	Routinely and accurately manipulates helm to change or maintain course.	<ul> <li>How to operate a helm.</li> </ul>
•	Continuously monitors common rudder and cont	<ul> <li>How to read a compass.</li> </ul>
	of turn indicator.	<ul> <li>How to read a rudder angle indicator and a rate of</li> </ul>
Num	Numerical:	turn indicator.
	In 100% of the cases all readings of instrumentation	<ul> <li>How to detect drift off desired heading.</li> </ul>
	are within acceptable limits in accordance with particular situation.	Specific:
•	In 100% of the cases, all helm adjustments are made	• Knowledge of specific ship's handling characteristics, i.e., rudder rate, lateral stability, rate of turn,
	exactly as ofuered (of desired).	erc.

TASK CODE:	IV.B.15	.15							
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIEN	TATION		WORKED	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
1	15	1	5	1	80	1	1	1	1

	.B.15 GOAL: Navigate through (maneuver in) non-restricted waters as required in order to	fy and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings waterway environment).
The state of the s	IV.B.15	OBLECTIVE: Identify and respond to po (non-restricted waterway environment
-	TASK CODE:	OBJECTIVE:

# Sounds ship's whistle and displays required identification/signals/flags in accordance with Rules of the Road, in order to maneuver in non-restricted waters safely and according to proper procedure. TASK:

	PERFORMANCE STANDARDS	TRAINING CONTENT
-	Descriptive:	Functional:
160	<ul> <li>Correctly operates whistle and displays appropriate signal flags.</li> </ul>	<ul> <li>How to operate ship whistle.</li> <li>How to identify and use signal flags.</li> </ul>
	• Operation of whistle and displaying of flags is timely to changing course or ordering engines astern.	Knowledge of Rules of the Road pertaining to whistle and flag signals.
	Numerical:	Specifics
	• In 100% of the cases, all appropriate whistle signals are sounded.	Knowledge of location of whistle controls (automatic and manual) and other day signals on narricular ship.
	• In 100% of the cases, all other appropriate day signals are displayed.	
And the land of the land		
ľ		

Objective IV.C: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings, when some emergency arises.

111	
JUU	

VELOPMENT	LANGUAGE	3
GENERAL EDUCATIONAL DEVELOPMENT	MATH	3
GENERAL	REASONING	3
WORKER	INSTRUCTIONS	3
	%	20
VTATION	THINGS	1A
AND ORIEN	%	5
NORKER FUNCTION LEVEL AND ORIEN	PEOPLE	1A
WORKER	%	75
	DATA	2

	1001		Navigate through (m	aneuver in	non-restricted w	Navigate through (maneuver in) non-restricted waters as required in order to
TASK CODE:	14.6.1	GUAL	JAL: reach destination safely and expeditiously	afely and	expeditionsly.	

Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings when some emergency arises. OBJECTIVE:

#### TASK:

Studies intended track, using appropriate navigational charts and publications, in order to acquaint self with conditions along route, prevailing environmental situation, aids to navigation, and potential navigational hazards.

PERFORMANCE STANDARDS

## Charts and publications are adequately studied.

# Is thoroughly familiar with intended track, prevailing environmental situation, aids to navigation, potential navigational hazards, and applicable navigation rules and practices.

#### Numerical:

# In 100% of the cases, all relevant data are ascertained as dictated by the particular situation.

Functional:

TRAINING CONTENT

## How to read and interpret navigational charts and publications.

## How to relate charts to actual physical environment.

#### Specific:

Anowledge of particular route, its aids to navigation and potential navigational hazards, applicable navigation rules and practices, and prevailing environmental conditions for that particular segment of route.

Descriptive:

	WORKER GENERAL EDUCATIONAL DEVELOPMENT	INSTRUCTIONS REASONING MATH LANGUA	3 3 1 1
		%	25
	TATION	THINGS	1A
	AND ORIENT	%	5
2	NORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1A
IV.C.2	WORKER	%	70
TASK CODE:		DATA	2

LANGUAGE

TASK CODE: 17:002		TUC2	:	Navigate through (maneuver in) non-restricted waters as required in order to
	TASK CODE:	7.0.1	GOAL	reach destination eafely and evneditionsly

Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings when some emergency arises. OBJECTIVE:

Wisually scans the waters surrounding the intended track (course) utilizing the naked eye and binoculars in order to detect and identify navigational hazards and aids to navigation. TASK:

TRAINING CONTENT	Functional:	• How to use binoculars.	<ul> <li>How to visually recognize hazards such as floating debris, shallow water, etc.</li> </ul>	• How to visually recognize various aids to navigation such as fixed and floating channel markers, lighthouse, ranges, etc.
PERFORMANCE STANDARDS	Descriptive:	• Thoroughly scans the surrounding waters.	• Accurately and promptly identifies various aids to navigation and navigational hazards.	Numerical:  In 100% of the cases, all necessary navigational aids and all navigational hazards are detected and identi-

Knowledge of navigational aids along the track, and their particular characteristics.

Specific:

Knowledge of special hazards to navigation known in

particular locale.

	MODIFED GENERAL EDUCATIONAL DEVELOPMEN	% INSTRUCTIONS REASONING MATH LAN	3 3 3
	LEVEL AND ORIENTATION	%	5
	VORKER FUNCTION LEVEL A	PEOPLE	1A .
IV.C.3	WORKER	%	55
TASK CODE:		DATA	2

NGUAGE

50		
order		
ui pa		
require		
s as		100000000000000000000000000000000000000
water		
Navigate through (maneuver in) non-restricted waters as required in order to	AL: reach destination safely and expeditiously.	
in)	nd ex	
maneuver	safely a	
e through	estination	
Navigat	reach	
	GOAL	
	IV.C.3	
	TASK CODE:	

#### OBJECTIVE:

Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings when some emergency arises. Operates the radar and fathometer in order to detect and identify navigational hazards and aids to navigation.

## Descriptive

## PERFORMANCE STANDARDS

#### sector search, intensity, etc., for the most accurate and prompt detection of navigational hazards and aids Selects the optimum combination of range scales, to navigation.

- Accurately detects various aids to navigation and navigational hazards on radar.
  - Accurately detects any navigational hazards on fathometer.

#### Numerical:

In 100% of the cases, all necessary navigational aids and all navigational hazards are detected.

## **FRAINING CONTENT**

Functional

- How to manipulate radar unit, i.e., vary range scales, sector search selector, intensity, range and bearing circles and lines, true or relative motion mode, etc. How to manipulate fathometer unit, i.e., vary depth
  - How to detect navigational hazards and aids to naviscale, intensity, etc.
- How to identify navigational hazards and aids to navigation on radar and fathometer. gation on radar and fathometer.

#### Specific:

- Knowledge of navigational aids along track, or manmade and geophysical characteristics which present
- Knowledge of special hazards known along route which present radar targets. good radar targets.
- Knowledge of individual ship's particular radar unit. Knowledge of individual ship's particular fathometer

unft.

#### F-164

1	
ı	-
	-2
	-
	-
	I
,	
1	
1	
	-
	:00E
1	-
	u
	SK CODE
	20
	-

ELOPMENT		LANGUAGE	2
GENERAL EDUCATIONAL DEVELOPMENT		МАТН	7
GENERAL		REASONING	3
	WORKER		3
		%	35
TATION		THINGS	2A
ANDORIEN		%	5
WORKER FINCTION I EVEL AND OBJENTATION		PEOPLE	1A .
WORKER		%	09
		DATA	3.4

			Navigate through (maneuver in) non-restricted waters as required in order to
:K CODE:	IV.C.4	GOAL:	reach destination safely and expeditionsly.

JUNE LIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings when some emergency arises. OBJECTIVE:

stadimeter, alidade, and pelorus, as appropriate, following standard procedures, and plots those readings on chart of the area, in order to establish ship's navigational position. TASK: Visually determines ranges to and bearings of fixed aids to navigation (reference points), if available, using

# PERFORMANCE STANDARDS

#### Functional:

How to select reference points for ranges and bearings.

TRAINING CONTENT

How to use stadimeter, alidade, and pelorus

Accurately reads ranges and bearings off instruments.

Precisely transposes those readings to charts.

Numerical:

How to transpose instrument readings to navigational charts.

#### Specific:

Knowledge of fixed aids to navigation along route. In 100% of the cases, ranges and bearings are determined

limits commensurate with ship speed, channel configuration and limitations, and prevailing environmental sit-

uation along route.

and readings transposed to charts within acceptable

#### F-165

Descriptive

Properly utilizes instruments.

ır
TV
.::
CODE
TASK

	_		
	/ELOPMENT	LANGUAGE	2
The second secon	GENERAL EDUCATIONAL DEVELOPMENT	MATH	3
The second secon	GENERAL	REASONING	3
The same of the sa	WORKER	INSTRUCTIONS	3
		%	50
	ITATION	THINGS	3A
	AND ORIENT	%	5
,	WORKER FUNCTION LEVEL AND ORIEN	PEOPLE	1A .
C.O	WORKER	%	45
		DATA	38

			Navigate through (maneuver in) non-restricted waters as required in order to	I to
TASK CODE:	IV.C.5	GOAL	reach destination safely and expeditionsly.	

# OBJECTIVE:

Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and

groundings when some emergency arises.

Operates and takes readings from RDF, loran, Decca, and radar, from fathometer, and from Omega and satellite navigator, in order to determine lines of position, water depths, and navigational positions, respectively. TASK

# TRAINING CONTENT PERFORMANCE STANDARDS

#### Descriptive:

## Selects the optimum system or combination of systems for most accurate and prompt acquisition of information

## Accurately reads selected system output and precisely transposes those data to charts.

#### Numerical:

In 100% of the cases, ranges and bearings are determined and are within acceptable limits commensurate with ship speed, channel configuration and limitations, and prevailing environmental situation along route.

#### Functional:

- How to select appropriate navigational system.
- How to operate and take ranges, bearings, and depth readings from selected navigational system.
- Now to transpose those readings to navigational charts.

#### Specific:

- Knowledge of those fixed aids to navigation or manmade and geophysical characteristics along route which present good radar targets.
- Knowledge of availability and reliability of various electronic navigational systems along route.

MORKER FUNCTION LEVEL AND ORIENTATION         WORKER         GENERAL EDUCATIONAL DEVELOPMENT           DATA         %         THINGS         %         INSTRUCTIONS         REASONING         MATH         LANGI           2         75         1A         5         1A         20         2         3         3         3		VELOPMENT	LANGUAGE	3
WORKER FUNCTION LEVEL AND ORIENTATION         WORKER           %         PEOPLE         %         THINGS         %         INSTRUCTIONS         REASON           75         1A         5         1A         20         2         2		L EDUCATIONAL DEV	MATH	3
WORKER FUNCTION LEVEL AND ORIENTATION  % PEOPLE % THINGS % II  75 1A 5 1A 20		GENERA	REASONING	2
WORKER FUNCTION LEVEL AND ORIENTATION  ### PEOPLE ### THINGS  75 1A 5 1A		WORKED	INSTRUCTIONS	2
WORKER FUNCTION LEVEL AND ORIENTATIO  ### PEOPLE ### 75 1A 5			%	20
		FATION	THINGS	1A
		AND ORIENT	%	5
		FUNCTION LEVEL	PEOPLE	1A .
DATA 2	14.0.0	WORKER	%	75
	I ASK CODE:		DATA	2

TASK CODE:	IV.C.6	GOAL: N	avigate each des	Navigate through (maneuver in) non-restricted waters as required in order to reach destination safely and expeditiously.	(maneum	ver in)	non-re	stricte ously.	d water	s as re	quire	d in ord	ler to	
OBJECTIVE:	Identify and respond to		tentiall	potentially hazardous conditions in order to avoid collisions, rammings, and	ons con	ditions	in ore	der to	avoid c	ollisio	ns, ra	mmings,	and	
groundings	groundings when some emergency arises.	y arise	s.											

TASK: Monitors wind direction and speed indicators, and obtains/reviews information on currents and wave height and direction, in order to ascertain wind, current, and wave conditions. TASK:

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
• Correctly reads all instruments.	• How to read wind speed and direction indicators.
• Routinely ascertains pre-calculated current data along	• How to visually estimate wave height and direction.
	• Where to obtain current data.
<ul> <li>Reliably estimates wave heltnt and direction.</li> </ul>	Specific:
Numerical:	Knowledge of prevailing environmental conditions along
<ul> <li>In 100% of the cases, readings and observations are within acceptable limits in accordance with particular</li> </ul>	route and seasonal variations throughout the range of expected values.
situation.	

	VELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	2
	GENERAL	REASONING	1
	WORKER	INSTRUCTIONS	2
		%	10
	TATION	THINGS	1A
	AND ORIENT	%	5
	WORKER FUNCTION LEVEL AND ORIEN	PEOPLE	1A
IV.C.7	WORKER	%	85
TASK CODE:		DATA	1

TACK CONT		. 1400	Navigate through (maneuver in) non-restricted waters as required in order to
I ASK CODE:	TV.C.7	DOME.	reach destination safely and expeditiously.
OBJECTIVE:	OBJECTIVE: Identify and respond to p	to p	potentially hazardous conditions in order to avoid collisions, rammings, and
groundings	roundings when some emergency arises.	aris	es.

Reads dials of instruments such as compass, rudder angle indicator, throttle position indicator, speed indicator, and and representation indicator, speed indicator, and results and propulsion system and propulsion system and visual failure alarms, in order to ascertain heading, speed, rudder angle, and propeller speed, and to monitor operating conditions of steering and propulsion systems.

TRAINING CONTENT	Functional:	• How to read compass, rudder angle indicator, throttle position indicator, speed indicator, and RPM indicator.	<ul> <li>How to monitor steering and propulsion system status indicators.</li> </ul>	Specific:	• Knowledge of location, arrangement, and characteristics of particular indicators, displays, and alarms on specific ship.		
DEDECTORANCE STANDADOS		• Correctly reads and surveys all instrumentation.	In 100% of the cases, readings and observations are	situation.			

TASK CODE:	IV.C.8	8							
	WORKER	<b><i>NORKER FUNCTION LEVEL</i></b>	EL AND ORIENTATION	TATION		WORKER	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	/ELOPMENT
DATA	*	PEOPLE	*	THINGS	%	INSTRUCTIONS	REASONING	МАТН	LANGUA
2	85	1A .	5	28	10	3	2	2	2

LANGUAGE

TASK CODE:	IV.C.8	GOAL:	Navigate reach des	through tination	Navigate through (maneuver in) non-restricted waters as required in order to coach destination safely and expeditiously.	in (ni	on-restriced editionsly	cted wat	ers as	require	d in ord	er to	
OBJECTIVE: grounding	OBJECTIVE: Identify and respond to groundings when some emergency as	respond to	potential es.	ly hazard	to potentially hazardous conditions in order to avoid collisions, rammings, and arises.	tions	in order	to avoi	d co11	isions,	rammings,	, and	

TASK: Monitors voice radio (bridge-to-bridge and/or ship-to-shore) and internal communication systems in order to maintain radio watch.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
<ul> <li>Is attentive to all voice radio traffic.</li> </ul>	How to operate various radio frequency (rf) equipment.
<ul> <li>Efficiently monitors all communications applicable to own ship and situation.</li> </ul>	ble Knowledge of voice radio communication procedures.
Vimer [ca]:	Specific:
• In 100% of the cases, all pertinent communications	• Knowledge of availability of various rf networks along route.
are detected, understood, and acknowledged.	• Knowledge of specific rf equipment provided on particular ship.

	/ELOPMENT	LANGUA	2
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	2
	GENERAL	REASONING	2
	a ya dow	INSTRUCTIONS	2
		%	45
	NTATION	THINGS	2B
	EL AND ORIENTATION	%	5
6	VORKER FUNCTION LEVEL	PEOPLE	14
IV.C.9	WORKER	%	90
TASK CODE:		DATA	1

			Navigate through (maneuver in) non-restricted waters as required in order to	
CODE	IV.C.9	GUAL	AL: reach destination safely and expeditionsly.	

OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings when some emergency arises.

TASK: Monitors collision avoidance system (visual and electronic) in order to detect other vessel traffic in vicinity.

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-17	Descriptive:	Functional:
70	<ul> <li>Thoroughly scans the surrounding waters both visually and electronically.</li> </ul>	<ul> <li>How to visually recognize other vessel traffic.</li> </ul>
	<ul> <li>Promptly and accurately detects other vessel traffic in vicinity.</li> </ul>	<ul> <li>How to operate electronic collision avoidance system.</li> <li>Specific:</li> </ul>
	Numerical:	<ul> <li>Knowledge of prevailing traffic patterns along route, including seasonal variations.</li> </ul>
	In 100% of the cases, all other vessel trailed in vicinity is detected.	<ul> <li>Knowledge of individual ship's specific electronic collision avoidance system.</li> </ul>

	VELOPMENT	LANGUAGE	7
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	7
	GENERA	REASONING	5
	MARKER	INSTRUCTIONS	4
		%	10
	IENTATION	THINGS	1A
	AND ORIENT	%	5
01	IORKER FUNCTION LEVEL AND ORI	PEOPLE	. AI
IV.C.10	WORKER	%	85
TASK CODE:		DATA	4

TASK CODE:	IV.C.10 GOAL:	Navigate through (maneuver in) non-restricted waters as required in order to iOAL: reach destination safely and expeditiously.	n (maneuver in) on safely and ea	non-restricted kpeditionsly.	waters as re	quired in or	der to
OBJECTIVE:	Identify and respond	to potentially hazardous conditions in order to avoid collisions, rammings, and	dous conditions	s in order to a	void collisio	ns, rammings	, and
grounding	groundings when some emergency ari	arises.					

TASK: Assesses all other vessel traffic in vicinity and navigational situation in order to determine the existence of any real or potential collision hazard. TASK:

	PERFORMANCE STANDARDS	TRAINING CONTENT
Des	Descriptive:	Functional:
•	Accurately determines the course, speed, closets point of approach (CPA), time to closets point of approach (TCPA) of all threatening traffic in vicinity.	<ul> <li>Understands principles of relative motion.</li> <li>How to determine course, speed, CPA, TCPA of all other vessels.</li> </ul>
•	Properly ascertains the governing rules of the road and considers any other restraints imposed upon own ship or other traffic by applicable navigation rules and practices if provided	• Understands applicable rules of the road and the limitations they impose upon his ship in determining potential collision hazard and possible counter action.
•	Anticipates possible actions by threatening traffic which may dictate reassessment of the situation.	Specific:
• ;	Makes assessment in timely manner commensurate with situation.	<ul> <li>Knowledge of prevailing traffic patterns along route including seasonal variations.</li> <li>Knowledge of applicable navigation rules and practices,</li> </ul>
DN .	Numerical:	if provided.
•	in 100% of the cases, all pertinent traffic data are assessed for potential collision hazard.	

TASK CODE:	IV.C.11	11							
	WORKER	WORKER FUNCTION LEVEL	EL AND ORIENTATION	TATION		WORKER	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUA
5B	06	1A .	5	1A	5	5	9	. 7	3

ANGUAGE

ASK CODE: IV.C.11   GOAL: reach destination safely and expeditionsly.

#### OBJECTIVE

Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings when some emergency arises.

TASK CARMILLES and evaluates total used input concenting environmental and own ship's mission (purpose and goals), in order to determine course of action to maintain desired track and speed, while simultaneously avoiding collisions, rammings, or Examines and evaluates total data input concerning environmental situation, own ship's characteristics, status of groundings, when a non-ship-control-related emergency occurs.

#### Descriptive:

- Anticipates any and all possibilities which may arise, especially other ships' intentions and actions.
  - Continually maintains mental alertness, i.e., is
- various action options as situation changes or pro-Maintains sense of proportion among input data and
- Makes decision in timely manner commensurate with situation.
  - Acts effectively and with aplomb under pressure.

#### Numerical:

and evaluated in accordance with the particular situa-In 100% of the cases, all pertinent data are examined tion before decision is reached.

### Functional:

- ship), and environmental factors as they relate to ship ancilliary equipment (both onboard and external to the Understands interrelationships which exist among ship, How to use regulations, conventions, principles, Rules controllability.
  - of the Nautical Road for navigationg a ship in nonrestricted waters.

#### Specific:

- Knowledge of own and other ships' hydrodynamic characvariations of those environmental conditions through teristics as they may be affected by prevailing environmental conditions along route and the seasonal the range of expected values.
- varying environmental conditions and other ship traffic. Knowledge of own ship's ancilliary equipment as it affects ship hydrodynamics and as it may be affected by
  - Knowledge of particular ship's emergency bill organisation and emergency procedures.

FLOPMENT	LANGUAGE	6
GENERAL EDUCATIONAL DEVELOPMENT	MATH	7
GENERA	REASONING	9
WORKED	INSTRUCTIONS	5
	%	5
TATION	THINGS	1A
AND ORIENT	%	5
WORKER FUNCTION LEVEL AND ORIEN	PEOPLE	lA .
WORKERFI	%	06
	DATA	58

in order 60AL: Navigate through (maneuver in) non-restricted waters as required reach destination safely and expeditiously. TASK CODE:

to

#### OBJECTIVE:

identify and respond to potentially hazardous conditions in order to avoid collisions, rammings and groundings when some emergency arises. Examines and evaluates total data input concerning environmental situation, own ship's characteristics, status of onboard and external ancilliary equipment, collision hazards, and own ship's mission (purpose and goals), in order ne course of action to maintain desired track and speed, while simultaneously avoiding collisions, rammings, ags when a ship-control-related emergency (such as loss of propulsive power or steering) occurs. to detern ground

## PERFORMANCE STANDARDS

#### Descriptive:

- Anticipates any and all possiblities which may arise, especially other ships' intentions and actions.
  - Continually maintains mental alertness, i.e., is vigilant.
- Maintains sense of proportion among input data and various action options as situation changes or
- Makes decision in timely manner commensurate with situation.
- Acts effectively and with aplomb under pressure.

#### Numerical:

In 100% of the cases, all pertinent data are examined and evaluated in accordance with the particular situation before decision is reached.

## TRAINING CONTENT

Functional:

- Understands interrelationships which exist among ship, ancilliary equipment (both onboard and external to the ship), and environmental factors as they relate to ship controllability.
- Knowledge of procedures for various ship controlled relat^' emergencies.
- How to use regulations, conventions, principles, Rules of the Nautical Road for navigating a ship in nonrestricted waters.

#### Specific:

- Knowledge of own and other ships' hydrodynamic characteristics as they may be affected by prevailing environmental conditions along route and the seasonal variations of those environmental conditions through the range of expected values.
  - Knowledge of own ship's ancilliary equipment as it affects ship hydrodynamics and as it may be affected by varying environmental conditions and other ship traffic.
- Knowledge of particular ship's emergency bill organization and emergency procedures.

	VELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
	GENERA	REASONING	7
	WORKER	INSTRUCTIONS	3
		%	5
	ATION	THINGS	10
	AND ORIENT	%	06
.3	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	. 2
IV.C.13	WORKER	%	5
TASK CODE:		DATA	2

TASK CODE:	IV.C.13 6	Navigate through (maneuver in) non-restricted waters as required in order to GOAL: reach destination safely and expeditiously.
OBJECTIVE:	Identify and respond	to potentially hazardous conditions in order to avoid collisions, rammings, and
groundings	roundings when some emergency	arises.

TASK: Conveys navigation orders to other bridge personnel and verifies their comprehension, utilizing standard procedures and phraseology, in order to execute decisions for ship control. TASK:

PERFORMANCE STANDARDS	TRAINING CONTENT
 Descriptive:	Functional:
 <ul> <li>Is precise and timely in conveying navigational orders.</li> </ul>	<ul> <li>How to phrase navigational orders.</li> </ul>
 • Ensures full understanding of order by other bridge personnel before, during, and after its execution.	Specific:
 Numerical:	<ul> <li>Knowledge of bridge organization for various watch conditions.</li> </ul>
 • In 100% of the cases, orders are understood by appropriate bridge personnel.	

	VELOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	1
	GENERA	REASONING	1
	WORKER	INSTRUCTIONS	1
		%	50
	ORIENTATION	THINGS	18
	AND ORIENT	%	5
4	IORKER FUNCTION LEVEL AND	PEOPLE	IA
IV.C.14	WORKER	%	45
TASK CODE:		DATA	2

TASK CODE:	IV.C.14 6	Navigate through (maneuver in) non-restricted waters as required in order to 60AL reach destination safely and expeditiously.
OBJECTIVE: groundings	OBJECTIVE: Identify and respond groundings when some emergency	OBJECTIVE: Identify and respond to potentially hazardous conditions in order to avoid collisions, rammings, and groundings when some emergency arises.

TASK: Adjusts RPM or pitch (if controllable) of ship's propeller(s) utilizing engine order telegraph, bridge throttles, or internal communications circuits, in order to change ship's speed. TASK:

 -					 
TRAINING CONTENT	Functional:	• How to operate engine order telegraph, bridge throttles, and communications circuits.	Specific:	• Special characteristics and location of own ship's equipment.	
PERFORMANCE STANDARDS	Descriptive:	• Expeditionsly and accurately manipulates equipment to effect speed change.	Numerical:	• In 100% of the cases, all adjustments are made exactly as ordered (or desired).	

	VELOPMENT	LANGUAGE	2
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
	GENERA	REASONING	1
	WORKER	INSTRUCTIONS	2
		%	90
	ATION	THINGS	10
	AND ORIENT	%	20
15	VORKER FUNCTION LEVEL AND ORIENTATIO	PEOPLE	1A
IV.C.1	WORKER	%	45
TASK CODE:		DATA	2

	The state of the s
TASK CODE: IV.C.15	Navigate through (maneuver in) non-restricted waters as required in order to GOAL: reach destination safely and expeditiously.
OBJECTIVE: Identify and respond to	d to potentially hazardous conditions in order to avoid collisions, rammings, and
groundings when some emergency aris	y arises.

to	
ı	
(if provided) in order	
0	
12	
Ŧ	
de	
Ž	
pr(	
1.f	
$\Xi$	
rs	
Indicator	
1ce	
pu	
+	
and rate of turn in	
T.	
o	
te	
ra	
pu	
a	
et	
and magnetic	
Ä	
gue	
0	
yr	
9	
es	
passe	
mpg	
CO	
qs	
ea	
r P	
and	e.
E	ILS
hel	000
hip's helm and reads com	п
ip	tai
co	int
SI	ma
urns	nge or m
H	e
	ang
TASK	cha
F	

PERFORMANCE STANDARDS .	TRAINING CONTENT
Descriptive:	Functional:
• Routinely and accurately manipulates helm to change or maintain course.	<ul> <li>How to operate a helm.</li> </ul>
otes a face actions and the second to the second and second	How to read a compass.
of turn indicator.	<ul> <li>How to read a rudder angle indicator and a rate of turn indicator.</li> </ul>
Numerical:	<ul> <li>How to detect drift off desired heading.</li> </ul>
• In 100% of the cases, all readings of instrumentation are within acceptable limits in accordance with particular situation.	Specific:
• In 100% of the cases, all helm adjustments are made exactly as ordered (or desired).	<ul> <li>Knowledge of specific ship's handling characteristics, i.e., rudder rate, lateral stability, rate of turn, etc.</li> </ul>

	VELOPMENT	LANGUAGE	1
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
	GENERA	REASONING	1
	WORKER	INSTRUCTIONS	1
		%	90
	FATION	THINGS	1
	AND ORIEN	%	5
97	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	1 .
IV.C.16	WORKER	%	15
TASK CODE:		DATA	1

			THE RESERVED TO SERVED THE PERSON NAMED TO SERVE
TASK CODE:	IV.C.16	GOAL:	GOAL: Navigate through (maneuver in) non-restricted waters as required in order to reach destination safely and expeditionsly.
OBJECTIVE:	SJECTIVE: Identify and respond	77 5	to potentially hazardous conditions in order to avoid collisions, rammings, and arises.

TASK: Sounds ship's whistle and displays required identification/signals/flags in accordance with Rules of the Road, in order to maneuver in non-restricted waters safely and according to proper procedure. TASK:

	PERFORMANCE STANDARDS	TRAINING CONTENT
De	Descriptive:	Functional:
•	Correctly operates whistle and displays appropriate signal flags.	<ul> <li>How to operate ship whistle.</li> <li>How to identify and use signal flags.</li> </ul>
•	Operation of whistle and displaying of flags is timely to changing course or ordering engines astern.	• Knowledge of Rules of the Road pertaining to whistle and flag signals.
Nu	Numerical:	Specific:
•	In 100% of the cases, all appropriate whistle signals are sounded.	• Knowledge of location of whistle controls (automatic and manual) and other day signals on particular ship.
•	In 100% of the cases, all other appropriate day signals are displayed.	

Goal V: Train/supervise bridge personnel in the safe conduct of vessel throughout voyage

Objective V.A: Impart knowledge about specific features, characteristics and procedures of vessel control

	VELOPMENT	LANGUAGE	7
	GENERAL EDUCATIONAL DEVELOPMENT	MATH	3
	GENERA	REASONING	7
	WORKER	INSTRUCTIONS	4
		%	5
	ATION	THINGS	1A
	AND ORIENT	%	65
	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	. 5
V.A.1	WORKER	%	30
TASK CODE:		DATA	7

TASK CODE:	V.A.1	60AL: Train/supervise bridge personnel in the safe conduct of vessel throughout voyage.
OBJECTIVE:	Impart knowledge	ge about specific features, characteristics and procedures of vessel control.

ASK: Interviews/evaluates new personnel using own judgment within guidelines of company policy, union contract terms, regulations, and accepted practice, in order to find out their needs for orientation, specific training, and performance monitoring, relevant to vessel operating requirements. TASK

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
<ul> <li>Personnel needs for orientation, training, and supervision are determined promptly, thoroughly, and accurately.</li> </ul>	<ul> <li>Responsibilities prescribed for personnel categories and general content of tasks that go with those responsibilities.</li> </ul>
• Effective communication is established.	• Informal interview procedure.
Numerical:	Specific:
<ul> <li>Determination is made X hrs/days before (after) un- berthing.</li> </ul>	• Vessel and equipment design and operating procedures.
• Specific knowledge and skills of all personnel are evaluated.	• Company policy, union contract terms, pertinent regulations.
	<ul> <li>Location and procedures for maintaining logs and other records.</li> </ul>
	• Content of manuals and other information sources used onboard vessel.

TASK CODE:	V.A.2					٠			
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIENT	TATION		WORKER	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	/ELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
7	07	. 85	04	1A	20	5	5	3	7

TASK CODE:	V.A.2	60AL: Train/supervise bridge personnel in the safe conduct of vessel throughout voyage.
OBJECTIVE:	Impart knowledge	e about specific features, characteristics and procedures of vessel control.
TASK: Walks specific jo	ASK: Walks personnel through ve specific job, using operations	TASK: Walks personnel through vessel, explains layout and special equipment, and demonstrates operations related to specific job, using operations and safety manuals, checklists, other available aids, and discretion concerning how

	١
2	
3	
2	
7	١
7	
d .	
200	
20	
1	
חוב	
202	
עד	
بد	
ב	
0.1	ŀ
rinacion snoutu be, in order to orient personnei to vesser and proces	
4	
, T	
3	
•	
מ	
7	
non	
S	
ar	
200	
nac	
1/1	
101	
Lar	
	1
e	
orien	
orien	
ille orlen	
eralle orlen	
detaile orien	

	PERFORMANCE STANDARDS	TRAINING CONTENT
F-	Descriptive:	Functional:
-181	• Indoctrination to vessel is conducted clearly, thoroughly, and efficiently.	<ul> <li>Knowledge of vessel systems, functions, operations, and personnel responsibilities,</li> </ul>
	Numerical:	• Teaching and demonstration skills.
	• 100% of personnel demonstrate that they know the	<ul> <li>Importance of thorough indoctrination to vessel.</li> </ul>
	information covered in indoctrination.	Specific:
	• All prescribed resource material is identified.	• Specific vessel control systems, functions, operations, and procedures.
		<ul> <li>Specific personnel responsibilities, knowledge, and experience.</li> </ul>
		• Documentation available aboard vessel to assist in task performance.

A STATE OF THE PERSON NAMED IN COLUMN 2 IN	
OLTONIO GOVGOW	MOLENTATION CALL AND COLUMNIA CON

/ELOPMENT	LANGUAGE	4
GENERAL EDUCATIONAL DEVELOPMENT	MATH	1
GENERAL	REASONING	3
WORKER	INSTRUCTIONS	3
	%	15
ATION	THINGS	1A
AND ORIENT	%	20
WORKER FUNCTION LEVEL AND ORIEN	PEOPLE	2
WORKER	%	9
	DATA	38

TASK CODE:	V.A.3	GOAL: Train/supervise bridge personnel in the safe conduct of vessel throughout voyage
OBJECTIVE:		

Impart knowledge about specific features, characteristics, and procedures of vessel control.

še.

TASK: Orders, posts, and/or maintains in specified location(s) on vessel standard sources of reference information (equipment diagrams, standing orders, operations and safety manuals), following vessel, company and governmental regulations about required materials, in order to ensure that the information is available when needed.

1		
	PERFORMANCE STANDARDS	TRAINING CONTENT
-	Descriptive:	Functional:
22	• Standard information is posted, stowed, updated and replaced promptly and accurately.	<ul> <li>How to obtain and distribute standard shipboard information sources.</li> </ul>
	<ul> <li>Availability and condition of information sources is checked thoroughly on a regular basis.</li> </ul> Numerical:	<ul> <li>Purpose(s) for which different sources are used.</li> <li>Procedures for ordering, updating, and replacing documents.</li> </ul>
	<ul> <li>All prescribed information is in designated location or known status whenever needed.</li> <li>Changes are made within X hr of notification, or if critical, immediately upon notification.</li> <li>Replacements are ordered as soon as known to be required and in place within X hr of receipt.</li> </ul>	<ul> <li>Specific:         <ul> <li>Information sources required, used aboard vessel.</li> </ul> </li> <li>Locations for various types of information.</li> <li>Vessel procedures for information acquisition and access control.</li> </ul>
		<ul> <li>Particular training aids furnished aboard vessel.</li> </ul>

	VELOPMENT	LANGUAGE	7
	GENERAL EDUCATIONAL DEVELOPMENT	МАТН	3
	GENERA	REASONING	5
	WORKER	INSTRUCTIONS	5
		%	10
	TATION	THINGS	1A
	. AND ORIENTATION	%	35
	WORKER FUNCTION LEVEL AND	PEOPLE	4B
V.A.4	WORKER	%	55
TASK CODE:		DATA	7

TASK CODE: V.A.4 GOAL: Train/supervise bridge personnel in the safe conduct of vessel throughout voyage.  OBJECTIVE: Impart knowledge about specific features, characteristics, and procedures of vessel control.	e.	
E: V.A.4 Impart knowledge abo	voyage	
E: V.A.4 Impart knowledge abo	ughout	
E: V.A.4 Impart knowledge abo	1 thre	ntrol.
E: V.A.4 Impart knowledge abo	vesse	sel co
E: V.A.4 Impart knowledge abo	t of	ves
E: V.A.4 Impart knowledge abo	conduc	res of
E: V.A.4 Impart knowledge abo	safe	rocedu
E: V.A.4 Impart knowledge abo	n the	and pu
E: V.A.4 Impart knowledge abo	nel i	ics,
E: V.A.4 Impart knowledge abo	erson	erist
E: V.A.4 Impart knowledge abo	idge p	haract
E: V.A.4 Impart knowledge abo	e br	, c
E: V.A.4 Impart knowledge abo	pervis	eature
E: V.A.4 Impart knowledge abo	ln/su	fic f
E: V.A.4 Impart knowledge abo	.: Trai	specif
E: V.A.	GOAI	about
E: V.A.		edge
I	4.4	
TASK CODE: OBJECTIVE: I	V.A	mpart
TASK CO	.DE:	VE: I
	TASK CO	OBJECTI

TASK: Provides on-the-job training (OJT) throughout voyage following standard operating procedures and using discretion within guidelines of union contract terms, company policy, regulations and personnel's interest in developing skills above minimum.

PERFORMANCE STANDARDS	TRAINING CONTENT
Descriptive:	Functional:
• Sensitive to personnel's work-related needs, interests.	• Knowledge of ship systems, functions, and personnel
• Clear and accurate in demonstrations and explanations.	responsibilities.
• Sensible in selecting time, place for on-the-job	• On-the-job training, hands-on demonstration techniques.
training so as not to disrupt operations.	<ul> <li>Documentation available to assist in task learning</li> </ul>
7	performance.
Numerical:	
• Informal talks are held at prescribed intervals with	Specific:
all personnel, to check their needs.	• Specific vessel control systems, functions, operations,
All departures from standards of personnel performance	procedures on vessel.
are noted,	• Specific personnel responsibilities, capabilities,
No casualty occurs because of inadequate personnel	experience.
skills/knowledge.	<ul> <li>Specific performance standards for tasks.</li> </ul>
	• Union contract terms.
	<ul> <li>Company policy, pertinent regulations.</li> </ul>
	• Documentation available.

Objective V.B: Examine/evaluate trainee's knowledge and performance on site

TASK CODE:	V.B.	1							
	WORKER	NORKER FUNCTION LEVEL	EL AND ORIENTATION	TATION		any a ow	GENERA	GENERAL EDUCATIONAL DEVELOPMENT	VELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUA
4	09	. 2	35	1A	5	5	5	4	7

LANGUAGE

TASK CODE:	V.B.1	GOAL: Tr.	OAL: Train/supervise bridge personnel in the safe conduct of ver	se bri	dge per	rsonnel	in t	the s	afe	conduct	of	resser	OAL: Train/supervise bridge personnel in the safe conduct of vessel throughout voyage.	voyage.
OBJECTIVE:	Examine/evaluate	trainee'	ainee's knowledge and performance on site.	a pue	erform	ance on	site							

ments. ıcy Watches and listens to trainee at work and queries him and others about his performance, using judgment in han-TASK

Teduttemen	deficienc	
COULTACL	event any	
TABOIL	to pr	
underlines of escaptished performance scandards, regardedly and tabor concract requirement	i, in order to make sure performance is maintained to standards, to prevent any deficience	tionships.
standards,	s maintaine	d work rela
per lormance	erformance i	to promote satisfactory attitudes and work relationships.
escapitished	o make sure	satisfactory
TO SHITTED	in order t	to promote
INS WILLIAM CHE SU	ig circumstances,	knowledge, and
TTTTE DIODIE	and operatir	In skil and
W.	10	18.18

TRAINING CONTE				REDRINANCE STANDARDS	MANCE	PERFOR			
SPRIATE OF PRESENTATION AND ADDRESS OF TRANSPORT AND ADDRESS OF THE PROPERTY O	-		and the contract of the contra	-					1
in skil and knowledge, and to promote satisfactory attitudes and work relationships.	and w	attitudes	satisfactory	promote	and to	knowledge,	and	n skil	H

-		+
Des	Descriptive:	国
	Thorough observations are made on a regular basis.	
•	Standards are applied consistently and objectively,	_
	but with due regard for circumstances.	
•	Personnel are stopped, replaced, or corrected im-	•
	mediately if their actions are judged to jeopardize	•
	oofotu	

### posefully of departures from performance standards and of the correction requirements or suggestions. Personnel are informed promptly, clearly, and pur-

#### Numerical:

- Emergency drills are always conducted as required by Logs and other records checked at end of each watch. company and Coast Guard regulations.
  - per-Daily informal observations made of personnel formance and depatures from standards noted.

No casualty occurs because of inadequate personnel

All inferior performance is corrected immediately. skills/knowledge.

#### unctional:

TRAINING CONTENT

- Knowledge of vessel operational requirements and associated task performance requirements.
  - Behavioral observation skills.
- Regulations, customs pertaining to personnel respon-Communication skills.
- Constructive correction of inferior performance. sibilities.

#### Specific:

- Performance standards for specific tasks.
- Vessel and equipment capabilities, operations, and current status.
- Labor contract terms and regulations applicable to vessel personnel.
- Company policy regarding personnel performance and its evaluation.

TASK CODE:	V.B.2	2							
	WORKER	WORKER FUNCTION LEVEL AND ORIENTATION	AND ORIENT	TATION		asyaow	GENERAL	GENERAL EDUCATIONAL DEVELOPMENT	/ELOPMENT
DATA	%	PEOPLE	%	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUA
7	35	. 5	09	1A	5	٠,	5	1	4

LANGUAGE

	voyage.	
	throughout	
-	vessel	
	of	-
	conduct	-
	safe	-
	the	
	in	
	personnel	The state of the s
-	bridge	
	Train/supervise bridge personnel in the safe conduct of vessel throughout voyage.	THE REAL PROPERTY AND PERSONS ASSESSMENT OF THE PERSONS ASSESSMENT OF
	Trai	۱
	GOAL:	
	B.2	
	Λ.	
	TASK CODE:	

Examine/evaluate trainee's knowledge and performance on site. OBJECTIVE

PASK tractual and regulatory requirements, knowledge of operating circumstances and of personnel background, capabilities, and physical and mental/emotional state, and using full discretion in applying those guidelines, in order to provide trainee's attitudes/views about own performance Talks with trainee about job performance and any problems, using established performance standards, knowledge of feedback on performance evaluation and to find out needs. grievances. and

commence of the contract of th		TRAINING CONTENT
drace on performance evaluation and to time out meters, bitchances, trained a decisional items about our performance,	to promote honest communication.	PERFORMANCE STANDARDS

## Descriptive:

Performance reviews are held as required.

### Appropriate times are selected for both formal and Informal feedback is provided frequently. informal review/feedback.

## Is perceptive of and open to indications for trainee's desire for communication.

# Any criticism is fair, objective, and constructive.

#### Numerical:

- No casualty occurs because of inadequate personnel skills/knowledge.
- No casualty or hostility occurs because of a grievance that was not detected.
  - No detected grievance or problem and no question goes without an attempt to resolve it.
    - At least X% of trainees feel that they have been evaluated fairly.

### Functional:

- Knowledge of task requirements.
  - Behavioral observation skills.
    - Communication skills.
- Regulations, customs pertaining to personnel responsibilities.
- worker-supervisor relationships, including importance Fundamentals of psychology of human interaction of feedback.

#### Specific:

- Specific performance standards for tasks of trainees. Specific background, responsibilities, capabilities,
  - personality traits, workload, and physical and attitudinal/emotional conditions of trainees.
- Labor contract terms.
- Company policy/pertinent regulatory requirements regarding personnel performance and evaluation.

Objective V.C: Perform necessary administrative tasks and maintain required records

•	GENERAL EDUCATIONAL DEVELOPMENT	REASONING MATH LANGUAGE	4 3 3
	WORKER	NS	3
		%	5
	ATION	THINGS	1A
	AND ORIENT	%	75
	WORKER FUNCTION LEVEL AND ORIENTATION	PEOPLE	. 5
V.C.1	WORKER	%	20
TASK CODE:		DATA	7

TASK: Manages/or safe and expeditions to safe and expeditions to safe and expeditions.  Descriptive:  TASK: Manages/or safe and expeditions to safe and expeditions to safe and expeditions.  Maintain hersonnel.  Ensures personnel.  Numerical:  In 100% of nel are fu	V.C.1  Perform necessary admin selorganizes personnel of peditious navigation of selull and punctual mannies complete readiness of alertness, night vision, in high performance stand nel.  s personnel are provided and equipment.  % of the cases, ascertain e fully qualified and rea	Istrative tasks and maintain required records.  bridge team in performance of all required navigation duties, in order to ensure hip.  ARDS  THAINING CONTENT  REMOSIAND  THAINING CONTENT  THAI

AD-A037 317

OPERATIONS RESEARCH INC SILVER SPRING MD F/G 5/9
TASK ANALYSIS REPORT RELATIVE TO VESSEL COLLISIONS, RAMMINGS, A--ETC(U)
DEC 76 J SMITH, P DANIELS, B PARAMORE DOT-CG-41903-A
ORI-TR-1049-VOL-2 USCG-D-1-77-VOL-2 NL

UNCLASSIFIED

3 OF 3



END DATE FILMED

FILMED 4-77

-	V.C.2
	TASK CODE:

VELOPMENT	LANGUAGE	2
ENERAL EDUCATIONAL DEVELOPMEN	МАТН	1
GENERAL	REASONING	1
WORKER	INSTRUCTIONS	1
	%	5
ATION	THINGS	1
WORKER FUNCTION LEVEL AND ORIENT	*	20
	PEOPLE	1A
WORKER	*	75
	DATA	2

DATA	*	PEOPLE	*	THINGS	%	INSTRUCTIONS	REASONING	MATH	LANGUAGE
2	75	. PI	20	1	5	1	1	1	2
TASK CODE:	V.C.2		GOAL: Per	form personn	el manage	AL: Perform personnel management and administration functions.	tion functions		
OBJECTIVE:	Per	Perform necessary		strative tas	ks and ma	administrative tasks and maintain required records.	ords.		

material condition history.

TASK:

TRAINING CONTENT	Functional:	Knowledge of information to be recorded in each log
PERFORMANCE STANDARDS	Descriptive:	<ul> <li>Is complete, accurate, and legible in recording</li> </ul>

Records required information in specified logs in order to have legal documentation of ship's maneuvering and

# Is able to log information quickly after hearing it once.

### In 100% of the cases, all required information is recorded.

Numerical:

## Specific:

Knowledge of who is permitted to make entries in each Knowledge of the source for each item to be recorded.

Knowledge of standard phraseology required for each

entry.

checks, draft readings, meteorological information, course and speed changes, name of pilot, number of

tugs, unusual occurrences, communication traffic,

anchor bearings, etc.).

(communication, maneuvering, and safety equipment

# Knowledge of information specific to own ship.

#### GPO 914-627

entries.